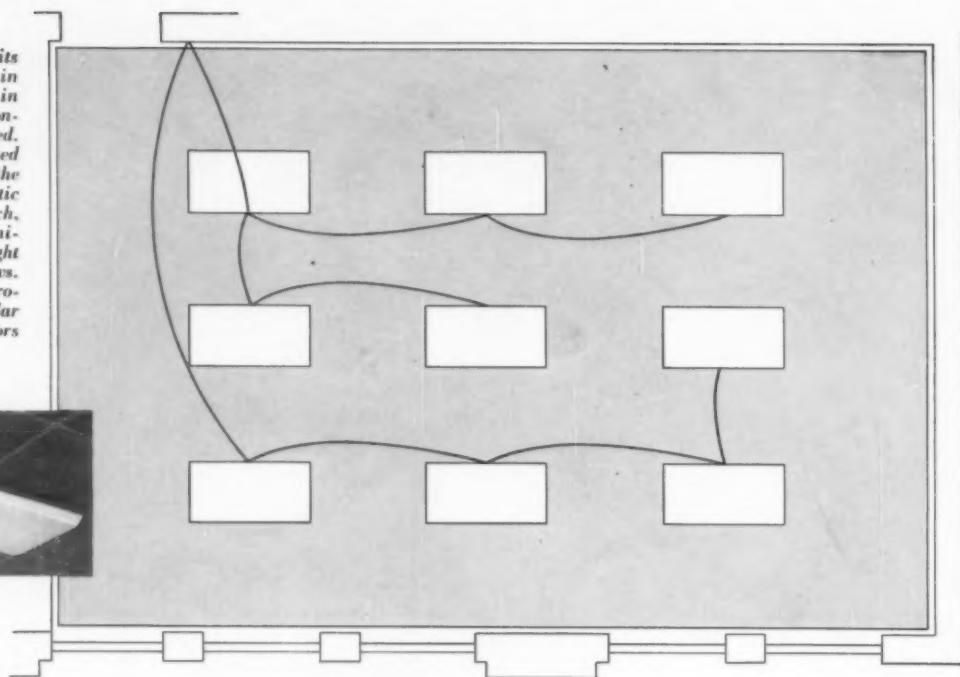




College AND UNIVERSITY Business

FEBRUARY 1955: Rôle of the Business Manager ★ Washington
News Notes ★ Library and Classroom Buildings ★ Unit Cost
Control ★ The Auditor's Function ★ Preventive Maintenance

Nine Wakefield 2'x4' Beta units provide evenly diffused light in this reconverted classroom, in which eight different environmental elements are coordinated. Beta is a completely contained unit which is recessed into the ceiling. Its Rigid-Arch plastic diffuser has a matte finish which, when the units are unlit, minimize any mirroring of bright light coming from the windows. There is a new illustrated brochure on the Beta, of particular interest to school administrators and architects.



Can a 26-year old classroom be converted into a coordinated classroom?

YES, and at a relatively low cost

A group of imaginative men decided it was possible to make a silk purse out of a sow's ear. They demonstrated the truth of their theory by transforming, at a relatively low cost, a 26-year old room in Grant Community High School, Ingle-

side, Illinois, into a modern, functional, completely coordinated classroom. The men: Carl Boester, Lafayette, Indiana, Nairne W. Fisher, Fisher-White Associates, Chicago, Illinois, Dr. Darell Boyd Harmon, Austin, Texas.

THE ENVIRONMENTAL ELEMENTS COORDINATED:

- ✓ ELECTRIC HEATING AND VENTILATION
- ✓ ENGINEERED LIGHTING
- ✓ ACOUSTICAL CONTROL
- ✓ ADAPTIVE SIGHT-EASE CHALKBOARDS
- ✓ THERMALLY CONTROLLED ENVIRONMENT
- ✓ HARMONIOUS FLOORING
- ✓ COORDINATED COLOR AIDING GROUP VISION
- ✓ POSTURE SEATING CONSONANT WITH EYE HEALTH

Participating in the adventure were 17 manufacturers, including Wakefield, which has been providing engineered lighting for coordinated classrooms since the earliest days of this classroom concept. In this case, Wakefield 2'x4' Beta recessed units were used. For a new brochure on the

Beta, and other individual brochures on the Wakefield Ceiling, Wakefield Geometrics and Wakefield luminaires of advanced design, write to The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada: Wakefield Lighting Limited, London, Ontario.

Wakefield Over-ALL Lighting



WAKEFIELD GEOMETRICS



THE CAVALIER



THE GRENAIDER



THE PACEMAKER



THE COMMODORE



THE STAR



THE WAKEFIELD CEILING

THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED



The new 5th Avenue Bank of MANUFACTURERS TRUST COMPANY, NEW YORK, has all-glass walls fronting on two streets to provide day and night passersby with a floodlighted view of the attractive and efficient interior

GLASS WALLS DRAMATIZE BANK'S FACILITIES AND SERVICES

The exterior walls of this new 5-story, air-conditioned bank structure are entirely of plate glass and polished aluminum, supporting no weight but hanging somewhat like curtains. The largest panes are 22 x 10 ft., one-half inch thick, and are the biggest and heaviest ever installed in America. On the ground floor, just a few feet inside the glass wall and facing 5th Avenue, is an outstanding feature—the giant 30-ton Mosler door to a vault which has reinforced walls 18 inches thick, lined with heavy steel

plate, weighing 2 million pounds and supported by special foundations anchored in bedrock. Leading from this floor to the main banking room above is a specially designed escalator. In this huge room as well as on the main floor below, there are no fixed teller's cages. Instead, tellers are positioned at specially designed counters to provide the best possible service. In this praiseworthy bank, as in thousands of other fine buildings, are SLOAN Flush VALVES—famous for efficiency, durability and economy.



more **SLOAN** *Flush* **VALVES**
are bought than all other makes combined

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Another achievement in efficiency, endurance and economy is the SLOAN Act-O-Matic SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects specify, and Wholesalers and Master Plumbers recommend the Act-O-Matic—the better shower head for better bathing.

Write for completely descriptive folder



ideas

from Blickman-Built
award-winning
food service
installations

eliminating waste motion

at Statler Hall, Cornell University



PORTABLE BINS ELIMINATE WASTE MOTION
View of bake shop in main kitchen, showing stainless steel bakers' tables with portable bins underneath. Here is an example of equipment designed to save time and facilitate cleaning. Bins are wheeled directly to supply section and filled with ingredients. Rehandling is avoided—waste motion eliminated. Since there is no fixed enclosure, there are no hiding places for vermin. With bins removed, the entire area beneath table is easily accessible for cleaning.



PORTABLE BANQUET TABLES PERMIT FLEXIBILITY OF SERVICE — View shows mobile banquet tables and food-warming cabinet in background, main kitchen. Food is loaded into tables and wheeled directly to serving area. Tables are then placed in position for most efficient service, depending upon load in banquet hall. All-welded, stainless steel construction assures a high degree of sanitation and long service life.

● This prominent educational institution emphasizes the scientific approach to hotel and restaurant management. Students are taught the newest techniques. They become familiar with a variety of modern equipment, chosen for its sanitary and durable qualities. Proper planning has resulted in the saving of time and labor and elimination of waste motion. In this award-winning installation there was a problem of integrating students' work areas with the main kitchen. It was solved by careful arrangement of equipment to permit smooth and efficient functioning. If you have a mass feeding problem, you can increase operating efficiency and lower maintenance costs by installing Blickman-Built food service equipment.



Send for illustrated folder describing Blickman-Built Food Service Equipment — available in single units or complete installations.

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E. Frederic Knauth

E. FREDERIC KNAUTH, assistant to the directing committee, university self-study, New York University, describes on page 19 the rôle of the business manager in the small college. Mr. Knauth's observations and conclusions have been developed as a result of his doctoral thesis at New York University. He brings to his study of college administrative problems a long career of business experience.

He was manager of Knauth Brothers from 1925 to 1943, then served for a year as manager of Keefe & Keefe, Inc., also in New York City. He was president of the Garfield Tea Company, a corporation in Brooklyn, from 1944 to 1950. As a result of having procured his M.A. in 1951, Mr. Knauth became interested in college administration and in that year accepted appointment as administrative assistant to the dean of the school of education, New York University. He already has a book to his credit and has written for professional journals. His doctoral thesis, "The Rôle of the Business Manager in the Independent Liberal Arts College," will be published this year.



Francis J. Brown

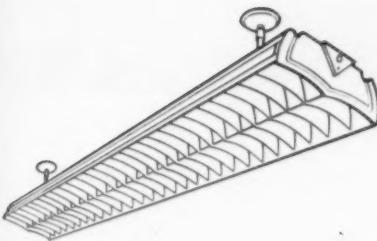
FRANCIS J. BROWN, staff associate of the American Council on Education, reports on page 21 the current status of higher education as it is affected by the activities of Congress. Dr. Brown's many official responsibilities with congressional groups and with the armed services permit unusual insight into federal legislative trends as they affect higher education. He was executive secretary of President

Truman's commission on higher education and a member of the advisory board of the United States Armed Forces Institute, and has served on a host of other official boards, commissions and committees. . . . HARVEY SHERER, assistant business manager of Oregon State College, on page 39 views with alarm the current enthusiasm in colleges and universities for studies of unit instructional cost. From extensive research conducted on the subject, Mr. Sherer points out that it is likely that misrepresentation will result from a study of unit cost surveys, with results that are educationally serious. Mr. Sherer, a prolific writer on college accounting subjects, formerly served as staff associate of the committee that developed the manual on college business administration, Volume 1, published in 1952 by the American Council on Education. Before that time he had served on the staff of Upper Iowa University and had been in public accounting work.



Robert Lee Dennard

ROBERT LEE DENNARD, assistant to the controller of the University of Florida, points out on page 27 the proper function of the college auditor. He has been a member of the business staff of the University of Florida since 1951 and passed his C.P.A. examination in 1952. Presently, he is working toward his M.B.A. degree. He served in the U.S. Navy from 1945 to 1948. Busy in several professional organizations relating to business administration and accounting, he also is an active member of the United States Naval Reserve and of the Junior Chamber of Commerce, Gainesville, Fla.



This is a relighted classroom in the Bristol School in Webster Groves, Mo. The lighting is provided by a LUVEX-'U' installation. In each of the three essential demands of good classroom lighting, this LUVEX-'U' installation measures up as follows:

QUALITY—A Glare Factor of 13, well within the accepted range of completely comfortable illumination.

QUANTITY—After eight months in service, intensities on *every* desk and on the chalkboard measured over 30 foot-candles.

ECONOMY—Only one circuit was needed for the entire installation. Only 1552 watts are used, less than the maximum permitted for one circuit.

The secret? Day-Brite's LUVEX®—with its 50% up, 50% down "butterfly" type distribution of light and its better than 80% efficiency. Only the LUVEX gives you LUVEX-'U' results!

Write for further information about the LUVEX-'U'. Address Day-Brite Lighting, Inc., 5452 Bulwer Ave., St. Louis 7, Mo. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

5435

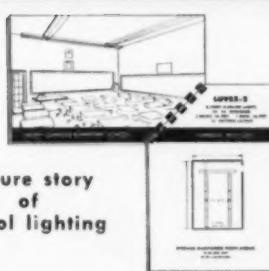
LUVEX-'U' LIGHTING: ANSWERS COMPLEX CLASSROOM PROBLEM

Classroom lighting is a three-way challenge. You need (1) Quality illumination; (2) Quantity—at least 30 footcandles on all desks and chalkboards; and (3) Economy.

The LUVEX-'U' is the most sensible, practical answer yet devised to guarantee you *all three* of these essentials. It is especially notable because it solves the most knotty problem of all—adequate light on the front chalkboard.

But please be cautious about one thing! Other fixtures may be arranged in a "U" pattern. They will not necessarily give you the same results as the LUVEX-'U'. Be *sure* you get Quality and Quantity with Economy. Insist on the LUVEX-'U"—and *only* the LUVEX-'U".

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school lighting

Shows how versatile Luxex fixtures offer practically unlimited possibilities in modern school lighting. Send for your copy—ask for Form OD-623.

NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

Questions and Answers

Improving Annual Reports

Question: What can be done to improve annual reports?—J.S., Tex.

ANSWER: I believe the first consideration in preparing an annual report is to determine for whom the report is being prepared. If the report is being prepared exclusively for the use of the administration, board of trustees, and other members of the constituency who are familiar with the history and financial condition of the college, then I believe emphasis should be laid on those items of significant change that have occurred since the previous report. If the report is being prepared for general consumption, then in addition to these considerations some attention should be given to other items of significance even though there may have been no particular change in the picture since the previous report. In either case, stereotyped comments and references to obvious items should be avoided.

The financial reports also should be related to the over-all program of the college at the time and should therefore be coordinated with the president's report. This does not mean a compromise with the principle of accurate reporting but merely to emphasize those things that need to be emphasized at the time.

Of course, it is always helpful to make use of charts, graphs and diagrams to illustrate percentage sources of income, percentage categories of disbursements, distribution of endowment holdings, and other items of interest to the constituency. Sometimes it is also helpful to relate the financial report of the institution to matters that at first might seem unrelated to a college financial report. In a recent report I used a newspaper editorial about the increase in the general standard of living in the United States in the last 50 years as a take-off point to illustrate, with the aid of statistics prepared by our economics department, that the standard

of living of our faculty had not kept pace with the general improvement of the standard of living in this country. Also, by referring back to a budget and financial report of 20 years ago I was able to show that our institution had not only come a long way since that time, but that the many changes that have occurred in our society since that time have increased the complexity and cost of our operation to such an extent that we need an increased dedication on the part of our constituencies if we are to preserve and strengthen our educational institutions in this country.—JOHN PEPIN, treasurer, Hamline University.

Painting by Contract

Question: Is painting by outside contractors more economical?—M.B., Ill.

ANSWER: At the University of New Hampshire, we believe that it is more economical, particularly in the smaller institutions, to contract for painting than to maintain a painting crew throughout the year.

For a number of years, we have decided before the normal painting season begins just what buildings would fall in our painting schedule for the season ahead. We have then prepared specifications and have submitted these specifications for bids to a number of New Hampshire painting contractors. We have stipulated the dates on which the buildings would

be ready for painting, and the dates by which the jobs must be done.

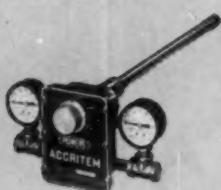
We have found that painters prefer the larger sized jobs such as are involved in university buildings and, therefore, competition has been keen. The results have been satisfactory. When we have had a fairly heavy schedule of summer painting, we have had as many as three painting contractors at work on various university buildings at one time. Supervision of painting jobs is not a serious burden for the maintenance staff.

There are other contributing factors that are advantageous to the institution. The painting season for exterior work is comparatively short. It is preferable to do both exterior and interior painting at the season of the year when there is least interference with academic and other scheduled operations. Even though the institutional plant may be operating on a year-round basis for instruction, research, conferences and institutes, the summer months offer the best opportunity to find the most time at which certain buildings may be least used. The painting schedule can then be fitted into the planned campus schedule to best advantage.

A number of years ago we employed a foreman painter and then attempted to pick up a crew of sufficient size to carry out our seasonal painting schedule. We found that the best painters already had been employed by painting contractors and that in some years we could not complete the work we had laid out before college opened in the fall.

We do have a painter and helper for odd jobs that come up during the course of the year and for the refinishing of repaired furniture. However, our experience in contracting for general painting has been so satisfactory that we would not give any thought to changing the procedure.—R. C. MAGRATH, treasurer, University of New Hampshire.

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.



Above: POWERS ACCRITEM Temperature Regulator, is water or compressed air operated. Controls FLOWRITE diaphragm valve (right). Widely used for Water Heaters and Industrial Processes.



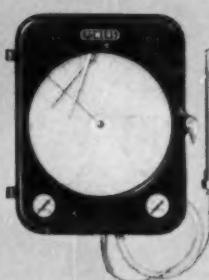
POWERS Type H Thermostatic Water Mixers Insure utmost comfort and safety in showers and other types of baths.

Also used for many processes. Users report $\frac{1}{2}^{\circ}$ F. \pm accuracy. Capacities 5 to 10 gpm. @ 45 psi.



Powers No. 11 Self-Operating Regulator widely used for water storage heaters, heat exchangers, fuel oil pre-heaters and many industrial processes.

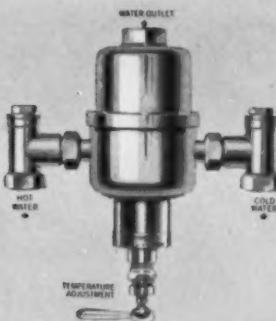
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Powers Thermostatic Water Controller for regulating temperature of multiple type showers, hydro-therapy and industrial processes. Capacities 22 to 125 gpm. @ 45 psi.



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For controlling chilled, or heated water in unit air conditioners.
No leakage
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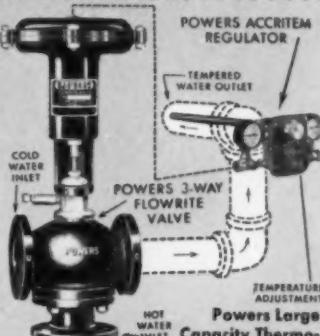


Powers MASTROL Control for regulating forced hot water heating systems.

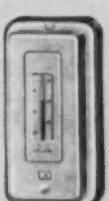


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Booths G-1, 3, 5, 7

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HERRICK

STAINLESS STEEL REFRIGERATORS
Performance-Proved
 in food service award-winner
 at FAMOUS-BARR, St. Louis, Mo.



A major Institutions Magazine 1954 Food Service Award went to the remodeled dining rooms and kitchen at the Famous-Barr Company in St. Louis. Designers of the project were Justin H. Canfield and Fred Rundall. HERRICK units were supplied by Southern Equipment Company. At left is a picture of the Famous-Barr downtown department store, St. Louis landmark.



Above is part of the modernized kitchen. It shows a HERRICK stainless steel, double front pass-through top mounted refrigerator used for desserts, salads and sandwich materials. At right is a two-door HERRICK for holding sauces, condiments and small quantities of items used from day to day. Other HERRICK units include a refrigerator-freezer combination and a short-order refrigerator.



In line with its policy of continued modernization, Famous-Barr Company, St. Louis department store, has transformed its tea room into two deluxe dining rooms, both served by one central kitchen. The St. Louis Room and Rose Room offer the very latest and finest dining facilities. In line with its policy of buying only the best equipment, Famous-Barr has selected HERRICK Stainless Steel Refrigerators for the new kitchen. • HERRICK Stainless Steel Refrigerators assure the utmost in sanitation and employee convenience. From meats to salads... eggs to ice cream... they provide year-after-year complete food conditioning. Write for the name of your nearest HERRICK supplier.

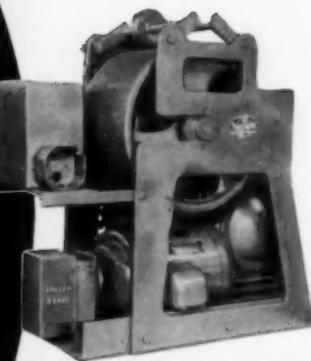
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 you get
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with
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bler overflow, spilled food or drinks won't mar it. Damp-mopping won't streak it!

And all previous superiorities remain! You still get, in new "Spot-Resistor" No-Buff, the same ease of application, high luster without buffing, tough protection and long wear that have already made Johnson's Brown Label America's favorite heavy-duty floor wax.

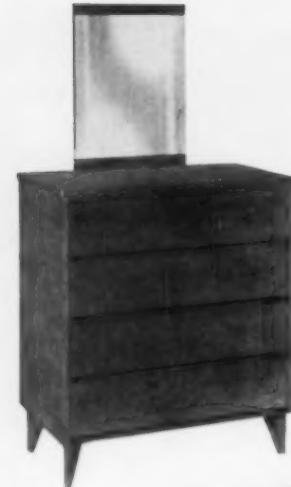
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For a College, What Size Is the Right Size?

RUSSELL COLE

President

Cornell College, Mount Vernon, Iowa



THE INCREASE IN ENROLLMENTS EXPECTED IN higher education in the years ahead offers an unusual opportunity for educational statesmanship, which may determine educational trends for many years to come. There is no question but that the increased numbers will be provided with educational service. There is considerable question as to *how* it will be done.

In some instances it will mean another round of increase in size and further increases so long as the demand persists. In other instances there will be a forthright consideration of what is the best size for the particular institution. This will require a consideration of the following points:

1. *The educational program an institution wishes to carry on.* Too often we invalidate any serious consideration of optimum size by trying to be all things to all men rather than some things to some men. By piecemeal addition we spread what we are doing so that even to think of an optimum size brings limitless expansion. There is no substitute for a clear definition of what a college wishes to do and for a willingness to hold to the program which is essential to its achievement.

2. *The conditions under which the educational program is to be operated.* These include the class size considered normal at all levels; the hours of formal teaching and the other demands made upon the faculty; the vital question as to what is considered the minimum number of faculty members for the particular departments. This is of importance primarily in the smaller sized colleges and is a question of intellectual association and stimulation. Here one would say that in most cases a department with two or more members is better than a department with one member.

The number and the quality of faculty personnel, the administrative staff, the plant and facilities, and the financial ability of the college are significant. The size of the faculty is directly related to the nature of the educational program. The quality of the faculty is related to the quality of the institution desired. In

the administrative staff certain key positions have to be filled. In large institutions these will be more numerous and on a unit basis; in smaller institutions, these will be fewer in number and one person may carry one or more of these responsibilities. Plant, facilities and financial ability, while perennial problems, are important in that their function is to support the educational services. They provide the setting in which the main work of the college is carried on and, therefore, can be no less than adequate.

Given the answers to such questions as these, the matter of optimum size is approached: (1) when there is effected an internal balance that eliminates such bottlenecks as prevent the completely effective use of the available resources of personnel, space and equipment in the predetermined program and the conditions under which it is to be operated (the difference between operating efficiently at an optimum size or operating inefficiently at some other size is directly related to the achievement of that internal balance); and (2) when there is an adequate flow of students at all levels of the college program and hence a full utilization of resources. This is no easy estimate. It involves the number of students required at the upper levels to fill out these classes so that they are of respectable size, the distribution of student interests, the normal rate of student attrition, and the changing interests of students. Thus developed, a flow concept with the size of the institution at any particular moment is the sum total of students required to maintain this steady flow for the full utilization at all levels.

There is no magic number. What is a good size for one college may not apply to another. A particular size for a given college at a given time may not be the right size for the same college at another time. The increased enrollments of the next decades are more of an opportunity than a problem, the opportunity for each individual institution intelligently and courageously to plan and to carry out what it determines to be the size that most effectively will fulfill its purposes.

Looking Forward

The Liberal Arts Idea

ALL OF A SUDDEN, BUSINESSMEN AND INDUSTRIALISTS have discovered the liberal arts college. Their enthusiasm matches the fervor of the sawdust trail convert. College administrators hope the enthusiasm is not ephemeral and that corporation support is here to stay.

Pretty soon, corporations are going to be asking some pointed questions about quality of faculty, recruitment of students, and competence of administration. If corporation funds for philanthropy are limited, and in all cases that is true, then there will be a cut-off point somewhere. It is expected that corporations will try to arrive at some yardstick to evaluate performance of faculty, students and program so that whatever funds are available may be utilized to best advantage.

There has been much talk and writing in recent months on the value of the liberal arts college and its contribution to the welfare of society. The small college has been particularly articulate in suggesting that small classes and personal contact with faculty are conducive to better learning. This is true, provided the faculty member has something of significance to share with the students in his small class. Quality of instruction, not proliferation of course offerings, will presumably be the factor that swings the balance of corporation support between an institution of demonstrated competence and one that stumbles along on a so-so basis.

The liberal arts idea is a great idea, and college administrators should be grateful to industry for recognizing that fact. It does not necessarily follow that all liberal arts colleges are great colleges. To merit support, such colleges must have an overwhelming concern for the quality of their offering and their product.

The Tompkins Act

IN NEW YORK STATE, FUND RAISING FOR COLLEGES and universities is more complicated than it used to be. Under the provisions of the Tompkins Act of 1954 all educational institutions planning to solicit funds in New York State are required to register with the State Department of Social Welfare and pay a registration fee of \$5. Each year the institution, if it has solicited funds within New York State, must submit a report on a form specified by the state within 90 days of the close of its fiscal year. Details of the amount of money

raised and names of professional fund raisers, if used, must be filed. Other data also are required.

Originally, the law was conceived as a means of eliminating fraudulent money raising schemes within the state. Because of the wide latitude of expression used in the act, its effect is considerably greater than was anticipated. Efforts are being made by educational organizations to have the act amended in such manner as not to make it an excessive burden.

Until the law is amended, however, all colleges soliciting funds in New York State must register with the State Department of Social Welfare. Lacking such registration, any solicitation since September 1954 has been in violation of the law.

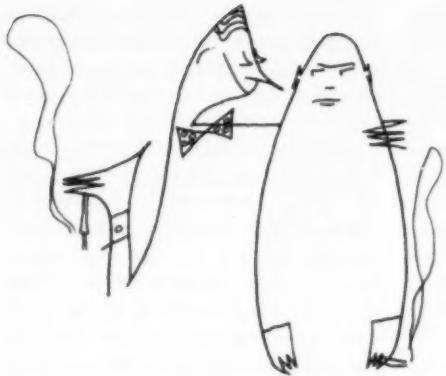
Research Impact

THE TREMENDOUS SUMS OF MONEY BEING EXPENDED by federal agencies for research on various university campuses throughout the country has alarmed many educators. They fear a control by outside forces that will prevent the institution from effectively serving the students who come for an education.

As more and more of the educational dollar goes for research, the function of a college or university as a center for teaching easily may become perverted, as a Geiger counter physicist at a laboratory table replaces the skilled teacher in a seminar.

For the last two years, a committee on institutional research policy of the American Council on Education has been functioning under the leadership of President Virgil M. Hancher of the State University of Iowa in an attempt to clarify some of the implications of research as it relates to higher education. According to the recently released report of this committee, the basic problem is that "institutions of higher learning and their faculties have the difficult, dual rôle of bearing their proper share of responsibility in meeting defense and other pressing needs of the nation, while at the same time preserving, as fully as possible, their basic responsibilities in education and research. . . . The national interest is not well served by any policy of the federal government or any of its agencies that demonstrably weakens rather than strengthens the ability of colleges to contribute to the country's welfare."

The only trouble with trying to work out an equitable solution is that some institutions might go broke if research contracts vanished from the scene.



The business officer would like to be a fully recognized participant in all college affairs.

IN AN ENDEAVOR TO LEARN MORE about the men and women who perform vital business services for our institutions of higher learning, I undertook a study of the rôle of the business manager in the independent liberal arts college of moderate size. This study drew upon information given by college business managers in response to a questionnaire circulated in the closing months of 1953. The questionnaire was the result of preliminary study, consultation and revision.

Much of the criticism was provided by a "jury" composed of the members of the National Committee on the Preparation of a Manual on College and University Business Administration and certain others of experience and eminence, all recognized experts in the field of college business management. On the strength of suggestions received from this "jury," the questionnaire was amended and in its final form was sent to the chief business officers of 127 independent liberal arts colleges having enrollments ranging from 200 to 2000 students.

Despite the length of the questionnaire—it contained several hundred questions on matters of fact and matters of opinion—the business managers to whom it was sent cooperated magnificently. Returns, most of them covering every topic treated in the questionnaire, were received from 89 business managers, or 70 per cent of the population under investigation.

The returns show a high degree of uniformity in the kind of work of a

Dr. Knauth is connected with the office of institutional research and educational planning of New York University and has been designated assistant to the directing committee of the self-study in which the university is presently engaged. This article is a summarization of portions of his doctoral dissertation, soon to be published.

Giving STATUS to the Business Manager

E. FREDERIC KNAUTH

Office of Institutional Research, New York University

business or quasi-business character performed by the respondents, but great diversity in other respects. Wide variations appear in the answers to questions on these topics: the age of the business manager and the length of time he has been in his position; his hours of work; the salary he receives and the title he bears; the type of work he engaged in before entering college business; the character and extent of his formal schooling; the range of his extramural activities; his committee memberships and duties, and the degree to which he participates in academic affairs. Equally wide variance is found in the reports on numerous other matters dealt with in the questionnaire.

HAVE SIMILAR VIEWS

Yet for all the diversity exhibited in the returns, it appears that the respondents have generally similar views on a number of topics of outstanding importance. For example, formal preparation for a career in college business management is highly favored; although no complete program of preparation exists, the respondents would like to see one instituted. Another topic on which there is a great measure of agreement is the nature of the business manager's post. It is regarded as managerial in character, devoted to accomplishing desirable ends through the cooperative work of individual human beings.

Still another general concern of the respondents is that the college business manager be regarded as a fully recognized participant in all the affairs—not merely the financial affairs—of the college; they seek to advance interdependence among the faculty, academic administration, and business administration rather than the initiation or

continuance of a cleavage that would separate these essential members of the institutional community. Other areas of agreement could be cited if space allowed.

With some notable exceptions, the colleges seem to be treating their business departments as adjuncts instead of incorporating them into the basic structure of the college and making them useful and fully accepted components of the institutional body. The same attitude of sufferance rather than of welcome seems to apply to the business officer.

It has been said often enough that an institution of higher education is a unique organism, that it is devoted to instruction and scholarship, that its staff of instructors and scholars is its real moving force, that all other persons and activities in the college government are no more than supporters of, and contributors to, the work of instruction and the pursuit of scholarship. Yet, granting the truth of these axioms, an important place must still be claimed for the nonfaculty members of the college community.

Any organization or similarly complex structure can be analyzed in a number of different ways, depending upon the point that is to be made. Often it is convenient to speak of the business side of the college as constituting a fourth organizational element, as if faculty, academic administration, and business were three separate entities or forces, all operating under the general leadership of the trustees.

However, this particular division may place at the same time too much and too little importance upon the business department—too much because business in a college setting is not of equal importance with the faculty and the academic administration;

too little because separating out the area of business may have the effect of relegating the business manager to the position of a skilled mechanic and nothing more, not really a part of the college although he is in it.

Practitioners and critics unite in agreeing that the proper place for the business services is under the president, responsible to him, supplying him with information, carrying out his directions. But this places a heavy responsibility upon the president. A college president is chosen for his general administrative ability, yes, but more for his academic training and university experience than for his business ability. Even though business acumen is a desirable quality in a president, other things come first. The president will need a thoroughly competent business expert to advise him on the immediate and long-range implications of college action and to keep him informed in an understandable way of the business affairs of the college.

But the president really should have more. He should, in my opinion, have a business manager who expresses business matters in an educational way. Where such a business officer does not exist, the president is in effect acting as his own business manager, and the holder of the title is a technical consultant, perhaps only a clerical assistant, rather than a manager of the college business.

WHAT PROGRAM SHOULD INCLUDE

If a regular training program for business managers is introduced, it should include special emphasis upon the aspects of history and philosophy that clarify the beliefs, attitudes and principles of educators. It should instruct in the complexities of program building and course preparation, in the intricacies of curriculum planning, in the problems and concerns and interests of teachers. And it should do these things with one purpose in mind: to make the college business manager an educator, with an educator's point of view and understanding.

However, to be such an educator-business officer makes greater rather than fewer demands upon a business manager. He must have all the knowledge and all the technics he had before, plus added ones as well. Can the business manager, already heavily weighed down by duties, take on added burdens? He can do so, but only if he is given the proper assistance and

staff. He should be able to relegate business details to subordinates to a much greater extent than the returns imply he is now able to do. Too much is now performed by business managers; in the performing, the business officers may lose sight of their larger objectives. The president and faculty, already well busied with their own major burdens, are forced to reach out to bridge the gap in the line of communication left by the submergence of the business manager in a morass of details and petty duties. If the business manager is raised to a higher level, the gap in the line of communication will be properly filled.

When a college is fortunate enough to have or to obtain an educator-business officer, he should be given all the encouragements and rewards the college can grant. In my opinion, the good business manager should be given the title of vice president, an organizational status equivalent to that of a senior dean, an appropriate salary, and all the staff and equipment he needs.

Colleges in general, faculties in particular, donors of all kinds as well, must come to realize that one of the handicaps under which higher education labors today, especially in institutions not under governmental control, is not an administrative staff that is too large, but one that is too small. Administrators exist to help, and help should always be acceptable. It has not taken teachers long to discover that with the increase of our knowledge, the widening of the services institutions render to students, and the expansion of both the enrollment and the influence of the college, adequate secretarial and clerical help is one of the most favorable factors in enabling a faculty member to cope with the responsibilities that confront him. Our war experiences taught us that the seven men in supply and industry who stand behind the man behind the gun are as indispensable as the soldier at the front.

There are drawbacks to such a program of ample assistance, the biggest being the lack of money. It usually is, in a college. It takes money to provide adequate assistance of the proper kind for a business office. However, if assistance is not provided, the institution is in effect consuming its own capital. The business manager who is geared only to the discharge of routine functions is being used at less than his capacity, and, from any standpoint, whether of engineering, psychol-

ogy or economics, to use capabilities to produce less than a maximum result is wasteful. Wastefulness at one point cannot be offset by the wise use of resources at another.

For this reason, if for no other, boards and faculties and presidents will all have to understand and believe in, not merely intellectually but emotionally, the need for the kind of educator-business officer described here. When the need has been acknowledged and felt, the institution can plan the raising and allocating of its funds in such a way as to make possible what now may look impossible.

SHOULD NOT BE LEFT TO CHANCE

Higher institutions have been extraordinarily fortunate, on the whole. It would appear that the good business officers they possess have come to them more as the result of good luck than of good management. The question is whether colleges wish to continue to bank upon good luck or whether they wish to exert some control over their own destinies. They can exert a great measure of control by realizing that the business affairs of an educational institution are a major concern; that in handling those affairs an education-minded expert is definitely an asset of prime importance; that the selection and nurturing of such education-minded experts is not to be left to someone else or to chance; that one of the basic conceptions underlying education is that from the mistakes of the past guides for the future can be derived, guides that can be communicated by one human being to another; that definite, focused, useful training can be established to provide colleges with a dependable supply of competent business directors; that a competent business director in a college should be freed to do his best work by being given appropriate status, authority and assistance.

Within broad limits, a college can be whatever it chooses to be. Faculty members of a college are charged with making the major moves toward choosing what the character of the institution shall be. They may prefer to handicap themselves by disregarding the importance of the institution's fiscal affairs and of the men who conduct them. Or they may choose to secure the integrity of their institution as an educational force by seeing to it that educational thinking pervades every act and function carried on in the college. The decision is theirs.

TWO BASIC PREMISES ARE, IN MY judgment, vital for future planning for higher education as well as in resolving immediate issues.

The first is that we now have a somewhat lightening of the dawn which may well usher in a prolonged period of peaceful relations among nations. I realize the skies may quickly darken and that we cannot afford to develop either the attitude of complacency toward military expenditures or of isolationism. The extent to which these faint gleamings of hope may become harbingers of substantial peace will depend, to a considerable degree, upon the extent to which the peoples of the world understand the great social, economic and political forces that in our shrinking world operate today among nations as, a generation ago, they functioned among neighboring communities. As never before, higher education has the supreme responsibility for the inculcation of social, moral and spiritual values, since it is this sense of values based upon understanding the peoples and cultures of the world that will give positive direction to the utilization of new instruments of power, either for self-annihilation or for the enrichment of life and the fulfillment of men's hopes and dreams.

If this basic premise is accepted, it leads then to a second: It is imperative that education, not only in our own country but throughout the world, give to young people the intelligence and the understanding of national and international issues and build in them the attitudes and the convictions that will make it not only possible but essential that mankind shall live in peace. From our own national point of view, this implies a still further expansion of both secondary and higher education.

I do not mean to imply that every institution must proportionately expand. Each college and university must determine the course of its future in the light both of its own aims and objectives and of its facilities in personnel and physical plant. The nation must and will find ways to meet the expanding needs of more education for more young people.

It is significant to note in all planning for the future that in 1954 the birth rate continued to rise and the

From a paper presented at the 40th annual meeting of the Association of Urban Universities, Pittsburgh, Nov. 8, 1954.

From Washington comes the News Notes of...

... FRANCIS J. BROWN
Staff Associate, American Council on Education

Being a review of higher education

in the year of 1954



number of babies born in 1954 was in excess of four million. Eighteen years from now, when the present infants are of college age, and assuming that, as now, one in four will enter our colleges and universities, the number of freshmen waiting at our college gates for admission will be more than 400,000 greater than the number who were born in 1936 and last fall applied for admission. When this increase of first-year students is carried through the four-year program and into the graduate and professional schools to meet the needs of a total national population expanding at the rate of two million a year, the estimate of four million students by 1965 and a total of five million a decade later appears increasingly conservative.

Against these two premises—that there will be a lessening of international tension and that higher education has a supreme responsibility to develop in an ever greater proportion of young people an awareness of human relations and values, national and international—it is interesting to survey what is actually happening on the Washington front.

INVESTIGATIONS

This past year has been one of investigation. Two investigations are of special significance to higher education. When I spoke to you a year ago, the Reece committee to investigate foundations and other tax exempt groups had been organized and had announced that it would not accept the findings of the Cox committee, which it accused of "whitewashing the foundations."

During May 1954 public hearings were held that began with a series of staff statements followed by testimony from persons who had identified themselves previously as highly critical of education generally and of foundations in particular.

Upon the insistence of the American Council on Education and of other groups that had been specifically cited in the staff paper and by prior witnesses, hearings were planned in order that the foundations and these organizations might present testimony before the committee. Only one such witness was called. He was continually interrupted not by questions to him but by heated arguments among the members of the investigating committee. By noon he had concluded only a few pages of his prepared state-

ment. The afternoon session lasted only long enough to demonstrate that the committee members would continue to argue among themselves. The hearing was adjourned and no further hearings of the committee have been held.

The accusations made in the staff paper are significant in that they reflect a climate that has extremely significant implications for all of education. The staff paper criticizes the former Cox committee because the foundations were not asked "why they did not support projects of a pro-American type." This does not say that they supported projects of an un-American type but certainly this is the implication that is deliberately intended to be read into it. In relation to the foundations and educational organizations, the staff paper points out that there appears to be an "interlock" among them—or I should say "us" since the American Council is cited by name. No direct accusations are made but a liberal sprinkling of such phrases as "the public interest," "un-American," and "incompatible with the fundamental concepts of our Constitution" makes the underlying purpose of the report clear, namely, to sow the seeds of suspicion and, by innuendo, to accuse.

A further indication of the tenor of the time is the bill, S. 4, introduced by the late Senator McCarran which would remove the tax exempt status from any foundation or organization that makes a grant to an organization or individual that is subversive. The term was defined as any organization or individual that (a) advocates, abets, advises or teaches the duty, necessity, desirability or purpose of overthrowing or destroying the government of the United States by force or violence; (b) is a member of any subversive organization as defined in (a), or (c) is registered or required to be registered under Section 8 of the Subversive Control Act of 1950.

The bill was not passed but in the last hectic days of Congress was referred to the joint committee of internal revenue. The committee report was referred for further study.

No argument in terms of (a) or (c); the real issue is (b). What is meant by membership? Is an individual who belonged to an organization in 1938, which was not then subversive but which (by 1948, when the first official list of subversive organizations was compiled by the attorney

general) had changed its character, still a member even though he has had no affiliation with the organization for the past decade or more?

The use of the federal tax structure to dictate educational policies is a serious issue in this troubous field. The joint committee of internal revenue asked for a conference with A.C.E., and the committee on relationships met with the joint committee on Nov. 19, 1954.

It is my considered judgment that, while investigations will continue, education is increasingly refusing to curtail its great liberal tradition of an open mind and an honest search for truth and that our colleges and universities, as well as our secondary schools, are seeking, by comparisons and contrasts, to build in the individual not the blind obedience of totalitarian states but the conviction, based upon evaluation and analysis and thus inherently his own, that "government of the people, by the people, for the people shall not perish from the earth." Only as we move increasingly in these directions can education successfully weather the intermittent waves of criticisms and investigations.

Another type of investigation also is important. I refer to the Commission on Intergovernmental Relations. A year ago, I indicated its point of view, included in its release of reports to the committee, suggesting the elimination of all educational grants-in-aid by 1955. The organization of this commission was rather completely overhauled some months ago and a number of special committees were appointed, one to deal with education. A committee on agriculture will consider appropriations to land-grant colleges. The American Council on Education's committee on relationships of higher education to the federal government met on September 28 with members of the committee on federal responsibility in the field of education and members of the staff of the Commission on Intergovernmental Relations.

The report of the committee was made to the full commission in October, but it is unlikely that any portion of it will be released until the full report is available. This will be soon since, unless extended by supplemental legislation and I doubt under the new Congress it will be, the commission will cease to exist after March 1. However, the report of the commission will, in my judgment, recommend the

gradual curtailment of grants-in-aid, at least in the field of education. I believe that it will recognize that, under certain specific conditions, federal funds may be justified and it will seek to set up criteria for such justification. It is probable that it will exclude the presumed inequality of the states to support education as a criteria for federal aid.

STATE CONFERENCES

The last year also has witnessed a great deal of planning through conferences. After a series of meetings with representatives of education at all levels, the Department of Health, Education and Welfare has recommended a specific formula for grants-in-aid.

A significant development of great potential significance was the authorization for state conferences and a White House conference on education. Plans already have been undertaken in many states to go ahead with these conferences. Three committees of the council have expressed their concern relative to them: the committee on relationships of higher education to the federal government, problems and policies committee, and executive committee. As a result of these deliberations, Dr. Adams was authorized to forward a letter to the commissioner of education in each state urging adequate concern for higher education in each of the state conferences. Letters also have been sent to the state associations of colleges and universities suggesting that they still further increase their efforts to be certain that higher education, its problems, and its interests are an integral part of the state conferences and in the statewide planning that may result from these conferences.

COST OF EDUCATION

The Office of Education is now completing what should prove to be a very useful study. It is an analysis of costs students incur in attending college. This study is based upon individual responses from more than 1500 students in 109 different institutions. The study pattern was prepared in cooperation with consultants representing national educational organizations.

RACIAL INTEGRATION

A third aspect of government which always has been important in education but which in 1954 has had a

vital impact is the Supreme Court. The Supreme Court wisely separated its total decision of May 17 on racial integration into two parts. The first was that of principle, the second that of the implementation of the principle. I predict that no decision will be rendered until late in the present term of the court, and that the ultimate enforcement of integration will not be mandatory universally until a period of five and perhaps even 10 years has elapsed.

The assumption that integration involves only our 17 southeastern states is by no means true. The problem may be more highlighted in relation to education, but in terms of housing, employment and many other aspects of life, it is a problem for the entire United States. That it is increasingly a national issue is forcefully indicated by the fact that the Negro population in 13 southern states showed an increase of less than 1 per cent between 1940 and 1950 while the Negro population of eight industrial northern states increased 65 per cent during the same decade.

Higher education has a unique responsibility in leading the way toward an integrated educational system. It is freer from the pressure of parental attitude. It is basically concerned with all aspects of human relations and with a growing sense of their importance in the life of the individual. It must concern itself with the maximum utilization of manpower and provide educational opportunity for all able students in our graduate and professional schools.

The fourth development is that of legislation. I will briefly summarize the laws enacted during the past year by the 83d Congress, most of them during the last few hectic days of its session.

LEGISLATIVE ACTION

Two laws that have long been of deep concern to the appropriate A.C.E. committees are the revision of the tax structure and further extension of Social Security. An additional 10 per cent may be deducted for individual gifts to a religious institution, an educational institution, or a hospital. The donor of a trust fund will now not be required to pay back income from a fund left in trust for two or more years. A parent may now continue to deduct for a dependent even though the student earns more than \$600 a year, provided the

parent pays at least half the cost of the student's education. The student must pay income tax on any earned income above \$600. Scholarships are not included as income to the student.

Retired persons, including those retiring before age 65, are freed from paying the 20 per cent first bracket tax on pensions, annuities, rents, royalties, interest and dividends except that income from veterans' benefits, Social Security, and earned income in excess of \$900 a year must be deducted from the \$1200. This deduction is in excess of the regular double personal deduction now allowed for persons 65 and over. For the first time, the new law defines scholarships and fellowships, as well as prizes and awards, and prescribes the conditions under which they are not considered income.

Three changes were made in Social Security providing Old-Age and Survivors Insurance. The first, long supported by the council, extends coverage to employes of states and their instrumentalities. Provision is made for separate action by professional and nonprofessional employes; also the employes of any one instrumentality, such as a state or municipal university, may apply for coverage even though other public employes do not desire to do so. The second change increases the monthly payments, and the third provides greater flexibility in the amount that can be earned under regular employment on which the Social Security tax is paid.

Three acts may have future significance in the federal program of education. One authorized and provided funds for the state and White House conferences on education (already referred to); another permits the Office of Education to enter into contracts with nongovernmental agencies and organizations to conduct cooperative research, and the third authorizes the appointment of a national advisory committee on Education in the Department of Health, Education and Welfare. Unfortunately, no funds were provided to implement either of the last two authorizations.

An air force academy and the resident college of the Air Force Institute of Technology were given authority to grant degrees. Bills to establish a foreign services academy and a medical and dental academy were not passed. There is, however, increasing pressure of two types: to extend the federally operated educational activi-



Assuming that one in four will attend college, it is estimated that by 1965 (about the time these children will be of college age) there will be close to 4 million students.

crease the cost of veteran education by \$18,000,000 a month, or nearly a quarter of a billion dollars annually. It is not likely that Congress will look favorably upon this increase and, interestingly enough, it is not being urged by the veterans. A second factor is that it is direct aid to the institution rather than the veteran if the established tuition is less than \$270 a year. Since this proposal has been a divisive influence in higher education, I hope sincerely that the issue will not be introduced into the 84th Congress or, if it is, that it will be so modified that it can have the united support of all education.

In April 1954, 190,000 veterans were in institutions of higher education under Public Law 550. The Veterans Administration estimates that the number will be 300,000 annually when the program has completed its full cycle and another 300,000 in education and training in noncollegiate institutions.

R.O.T.C. ACTION

The appropriation for the Department of Defense carried the restriction that no funds for R.O.T.C. could be expended in the support of students in the basic course unless they executed a certificate of loyalty. Such a loyalty oath is already required of students who elect to take the advanced R.O.T.C. course. The Department of Defense has ruled that the issuance of the uniform constitutes support and that students enrolled in institutions requiring R.O.T.C. who, for any one of many reasons, may object to such an oath may drill in "civics." The R.O.T.C. panel and the reserve forces policy board are still seeking some more satisfactory interpretation of the law.

HOUSING

The Housing Act of 1954 includes authorization of up to \$10,000,000 for planning of state and local non-federal public works. Of the total, \$1,500,000 was appropriated. Such funds may be used for advanced plan-

ties into fields of direct competition with existing nonfederal educational institutions, and to insist that our colleges and universities provide a sufficiently liberal transfer of credits and remove degree residence requirements to permit military personnel to be awarded degrees. None of the military academies will award degrees without even more stringent course and residence requirements than those now required by civilian institutions.

PUBLIC LAW 550

Only one change was made in Public Law 550. Korean veterans now have three years after discharge instead of two to enroll in education

and training, and eight instead of seven to complete it. The same extension was made in Public Law 894 for veterans disabled since July 27, 1950.

Brief hearings were held on the proposed amendment to provide a payment directly to the educational and training institution in which a veteran is enrolled under Public Law 550. The final version of the proposal was to continue the present payments to veterans and to add a payment of \$30 a month to the institution in which the veteran is enrolled. If, as anticipated, some 600,000 veterans will be enrolled continuously in education and training, this would in-

ning of campus housing. The authorization is for public institutions only and expires July 1, 1957.

MILITARY PERSONNEL

One of the basic problems that will be of primary importance during the first session of the 84th Congress is the provision for military personnel. The present Selective Service Act expires on June 30. One course of action would be to discontinue Selective Service, but this does not seem possible without greater assurance of collective security and world peace. A second would be the extension of the present act, but the military will not be satisfied. A third would be to revise the law so as to include both Universal Military Training and Selective Service. There will be considerable pressure from some veteran and citizen groups to enact U.M.T. but, as of now, the military is sharply divided as to its desirability. A fourth alternative, and one that is being given serious consideration by the reserve forces policy board, of which Dr. Adams is chairman, is completely to revamp the reserve system, including National Guard, to provide military security, but without universal military training.

Another proposal is the establishment of a federal program of scholarships. Although I predict that Public Law 550 will not be repealed so long as we have mandatory induction, the possibility of its repeal stimulates interest in the broad federal program. Many problems are involved but they are not insurmountable; it is important, however, that education take leadership in planning such a program.

An advisory committee to the Department of State has proposed a plan for scholarships beginning at the junior year of college for persons who

plan to enter foreign service. The council's Commission on Education and International Affairs is studying the details of the plan. The National Science Foundation also is studying proposals for an undergraduate program of scholarship.

COLLEGE HOUSING LOAN PROGRAM

A total of \$200,000,000 is now available through the Housing and Home Finance Agency for loans for college housing. Of this amount, \$110,000,000 has been approved for loans and \$43,600,000 has been reserved for loan on applications approved. The interest rate is now 3 1/4 per cent. The college housing program continues to operate on a self-sustaining basis at no cost to the federal government.

SELECTIVE SERVICE

Selective Service has required that students going on to graduate work in the fall of 1955 must be in the upper quartile of their senior class or have achieved a grade of 80 on the Selective Service examination. The former requirements were upper half and a grade of 75. No study has yet been made of the effect upon graduate and professional schools but such a study should be made.

INTERNATIONAL RELATIONS

The Congress restored all but \$300,000 of the appropriation for the exchange of persons program. Such action was a recognition of the support of the program given by American institutions and by many other citizens' organizations throughout the nation. The council is now administering a portion of the leaders program through which top leaders from 70 foreign countries are brought to the U.S. for a period of 45 to 90 days. The Foreign Operations Administra-

tion now has contracts through which 51 American universities cooperate with a like number of institutions of higher education in foreign countries. There will be a total of about 100 contracts involving some \$50 million when the program is rounded out. The American Council on Education has established an office on institutional projects to work with the Foreign Operations Administration and the institutions in the development of this program.

PREDICTIONS

In looking to the future in the international field, we will face a difficult year. The rumblings of opposition to the U.N. and UNESCO will grow louder. Appropriations for international services will be in jeopardy. Yet never before in history has the need for developing world understanding been so imperative or the rôle of international agencies been so vital to world peace.

Predictions resulting from change in political front in Washington include:

1. Decrease in investigations and closer coordination among the various investigating committees and greater reliance on established executive agencies.
2. More favorable climate for federal legislation affecting education: grants for school construction; scholarships including the National Science Foundation; revival of general federal aid to education.
3. Less opposition to programs of educational and technical assistance and for exchange of persons.
4. More concerted action in first session for welfare legislation of many types than in 83d Congress.
5. Modification of McCarran Act, since the Iron Curtain concept is now being used against us.

If Auxiliary Enterprises Accumulate a Surplus

... how should it be used? This type of surplus always has been a controversial item in the university budget. Henry Doten of the University of Maine will outline in the March issue his philosophy on this subject.

Can a University Bar National Fraternities?

T. E. BLACKWELL

*Vice Chancellor and Treasurer
Washington University, St. Louis*

DURING THE FALL OF 1953, ALL members of the local chapter of a national fraternity on the campus of the College for Teachers of the State University of New York at Albany resigned from the national organization when five students whom the local chapter had accepted for membership were rejected by the national organization on religious grounds. At the State Teachers College at Cortland, N.Y., the college administration requested two sororities with national affiliations to sever these ties because of what were termed "flagrant racial discriminatory practices required by the policies of the national organization."

These and other incidents lead to a comprehensive survey of the practices of the national fraternities and sororities at the tax supported institutions of higher education in the state of New York. The following is an excerpt from the report of President William S. Carlson to his board of trustees on this problem:

"The university must always be in a position to exercise sufficient supervision over students and their social organizations to assure compliance with university policies. So long as such organizations are local in character, the situation is manageable. But when they involve ties outside the university, over which the university can exercise no control, serious conflicts may arise. This is something no university can tolerate."

On Oct. 8, 1953, the board of trustees of the State University of New York adopted the following resolutions:

RESOLVED that no social organization shall be permitted in any state

operated unit of the State University which has any direct or indirect affiliation or connection with any national or other organization outside the particular unit; and be it further

RESOLVED that no such social organization, in policy or practice, shall operate under any rule which bars students on account of race, color, religion, creed, national origin or other artificial criteria; and be it further

RESOLVED that the president be, and hereby is, authorized to take such steps as he may deem appropriate to implement this policy, including the determination of which student organizations are social as distinguished from scholastic or religious, and his decision shall be final.

On Nov. 25, 1953, Earl Webb, as president of Sigma Tau Gamma, supported by six fraternities and sororities as intervenors, filed a petition in the



Federal District Court of the Northern District to void these resolutions on the ground that they deprive them of their civil rights guaranteed to all citizens under the Bill of Rights of the federal Constitution. Specifically, the petitioners charged that the resolutions were adopted without due process of law, that they encroached

upon their constitutional right of freedom of assembly, denied them equal protection of the law, and adversely affected their existing contractual and property rights.

Since the validity of the action of a state agency functioning under a state statute was involved, Judge Foley reserved decision¹ and convened a statutory² three-judge court to pass upon the constitutional questions. Judge Hand, on June 7, 1954, ruled that in his opinion the petitioners had failed to show that they had been deprived of any civil rights. From this decision, an appeal was taken to the Supreme Court of the United States. In the brief filed by counsel for the fraternities, the following issues were raised:

1. The resolutions in question, adopted by the State University trustees, had never been approved by the board of regents. Section 355 of the Education Law of the state of New York authorizes the trustees to make, establish, alter and amend rules and regulations for the government of the State University, subject, however, to the approval of the board of regents. Without such approval the resolutions would constitute an unconstitutional delegation of legislative power.³

2. The fraternities are deprived of valuable property rights, without due process of law, contrary to the requirements of the Fourteenth Amendment. Evidence was introduced to show that the chapter houses would be much less valuable as rooming houses than as fraternity houses, since extensive alterations would be required for the conversion.

3. The appellants also introduced evidence to the effect that one chapter at Oswego, N.Y., has elected a Negro as president and that others had initiated Chinese, Japanese and Indians. All chapters claimed to have members of the Catholic, Protestant and Jewish faiths. Since neither in their constitutions nor in practice do they discriminate because of race, color, religion, creed, or national origin, the action of the trustees must be unreasonable and arbitrary.

The following is an excerpt from the final paragraph of their brief:

"Appellants seriously urge that the national fraternity system, which has existed in American colleges for over

¹Webb et al. v. State University of New York, etc., 120 F. Supp. 554 (1954).

²28 U.S.C. § 2281.

³Schechter Corp. v. U.S., 295 U.S. 495.

one hundred and twenty-five years, and has included in its membership many of the finest minds in the country among whom are several presidents of the United States, should not be arbitrarily thrown out without an opportunity to be heard by the highest court in our land."

Notwithstanding this plea, the United States Supreme Court, on Nov. 8, 1954,⁴ refused to review the ruling of the special three-judge federal district court on the ground that no substantial federal question was involved.

Apparently, the first wave of opposition to the existence of Greek-letter fraternities on the college campus came in 1880. The trustees of Purdue University made membership in such organizations a basis for dismissal. In 1882, the Indiana Supreme Court⁵ issued a writ of mandamus to compel the admission of a student who had been rejected solely because he had declined to sign a promise to resign as an active member of the Sigma Chi fraternity during his stay at the university. The court justified its action as follows:

"The admission of students in a public educational institution is one thing, and the government and control of students after they are admitted, and have become subject to the jurisdiction of the institution, is quite another thing . . . the possession of this great power over a student after he has entered the university does not justify the imposition of either degrading or extraordinary terms and conditions of admission into it . . ."

Several decades later the legislature of the state of Mississippi enacted a statute prohibiting the existence of secret societies in state colleges in its tax supported institutions of higher education. In 1913 the supreme court of Mississippi⁶ sustained the action of the university trustees requiring all matriculants to sign a promise to obey the anti-fraternity statute while enrolled as students. The issue was carried to the Supreme Court of the United States and the action of the state court was affirmed.⁷ In

⁴Earl Webb et al. v. State University of New York et al., 348 U.S. 867.

⁵State ex rel.

⁶Board of Trustees of University of Mississippi v. Waugh, 105 Miss. 623, 62 So. 827, L.R.A. 1915 D (1913).

⁷Waugh v. Board of Trustees of the University of Mississippi et al., 237 U.S. 589 (1915).

his opinion, Mr. Justice McKenna declared:

"It is trite to say that the right to pursue happiness and exercise rights and liberty are subject in some degree to the limitations of the law, and the conditions upon which the state of Mississippi offers to complainant free instruction in its university, that while a student there he renounce affiliation with a society which the state considers inimical to discipline, finds no prohibition in the Fourteenth Amendment."

By 1926 the wave of opposition to the college fraternity system in Mis-

sissippi and certain other southern states had subsided, and the Mississippi statute was repealed. Similar acts in Arkansas and South Carolina were also repealed. Now, in this fifth decade of the century we have the action of the State University of New York, and, according to the 1954 Britannica Book of the Year, in May of 1953 Columbia University announced that it would withdraw recognition by 1960 from all student organizations, except those of a religious type, which discriminate against applicants because of race, color or religion.

Never Overload an Auditor

Give him time to put his feet up,
sit back, and think

ROBERT L. DENNARD

Assistant to Controller, University of Florida, Gainesville

THE EXTERNAL AUDITOR'S PRIMARY concern is to reach a conclusion on how well the over-all finances of a college are being handled. He is vitally concerned with balance sheet examination. This involves the verification and testing as to reasonableness of the amounts shown there. He usually is concerned with the analysis of income, the analysis of expenditures, and the analysis of surplus.

It is his responsibility to reach a conclusion as to whether or not the financial statements are presented in accordance with that somewhat nebulous term, "generally accepted principles of accounting." He must state whether or not these generally accepted principles have been consistently observed in relation to the preceding period.

It is the external auditor's responsibility to see that his report includes informative disclosures that are not apparent in the financial statements. It is his responsibility to make a proper

study and evaluation of the existing internal control.

It is at this point that we find a convenient entry into the sphere of the internal auditor. To quote "Montgomery's Auditing": "Procedures of internal control are those which safeguard the assets of the company, check the accuracy and reliability of its accounting data, promote operational efficiency, and encourage adherence to prescribed managerial policies."

Internal auditing, a part of internal control, is defined by the Research Committee of Internal Auditors as follows:

"Internal auditing is the independent appraisal activity within an organization for the review of the accounting, financial and other operations as a basis for protective and constructive service to management. It is a type of control that functions by measuring and evaluating the effectiveness of other types of controls. It deals primarily with accounting and financial matters, but it may also properly deal with matters of an operating nature."

Internal auditing may be either passive or dynamic. The passive type

From a paper presented at the meeting of the Southern Association of College and University Business Officers, Raleigh, N.C., 1954.

of auditing primarily is concerned with maintaining the status quo, that is, the performance of what amounts to a police function. The dynamic type is more concerned with the over-all appraisal of related processes and procedures. These processes and procedures are usually of an accounting and financial nature but may be of an operational nature.

AUDITOR'S RESPONSIBILITIES

It is the dynamic type of internal auditing that is in more general use today. An auditor operating under this dynamic philosophy would have these functions and responsibilities:

1. He exercises a police function in the verification of compliance or non-compliance with the organization's procedures and policies of an accounting and financial nature.

2. It is his responsibility to appraise these procedures and policies and to come up with recommendations for improvements.

3. It is his responsibility to verify and analyze accounting and financial data for management's use.

4. It is his responsibility to appraise the effectiveness with which the organization's resources are utilized.

5. He is in an excellent spot to train the newcomers to the staff. Nowhere in the organization should there be a better cross section of headaches and challenges than with the internal auditor.

6. It is his responsibility to serve as the impartial eye and ear of management. He must be a sounding board for new ideas. He must take advantage of every opportunity to increase efficiency or to further economy.

At the risk of considering areas of investigation that are too obvious, I offer these as being fruitful material for the college auditor.

1. Purchasing. The auditor should test the effectiveness of policy with regard to purchasing procedures. Is the "red tape" accomplishing what it was set up to accomplish? The auditor should test the degree to which the purchasing agent is complying with established policies and procedures. Does the purchasing agent have an adequate means of spotting deviations by the various departments from established procedures? Does he take prompt corrective action against offenders of the established procedures? Does year-end purchasing indicate purchasing merely for the sake of spending allotted money?

2. Receiving. Do the persons involved in submitting receiving reports understand the importance of their work? Are the receiving reports mere copies of the purchase order or do they represent an actual count and examination of the material received?

3. General Accounting Office. Tests should be made of the effectiveness of internal control over receipts and disbursements. Is there strict observance of terms of administration and reporting on trust and agency funds? Are discounts lost unnecessarily? Are the reports rendered to the departments adequate for departmental needs? Are student fees collected by the business office related to the registrar's enrollment records to uncover discrepancies? Is there compliance with an established fee refund procedure? Is there a periodic survey of outstanding purchase orders with an eye toward eliminating unnecessary encumbrances?

4. Budgeting. Do the departments have sufficient financial information to present realistic budgets? Are the cost records sufficiently complete to enable the setting of realistic standards of performance? Are the physical plant departments able to present adequate performance statistics in support of their budget requests? While this business of performance statistics is an area colleges in general are unable to discuss too happily, there are areas where commercial cost principles are applicable.

5. Auxiliary Enterprises. Do the records of auxiliary enterprises reflect sound accounting techniques? If these self-supporting enterprises are self-supporting in name only, is sufficient information being made available to top management for effective evaluations?

6. Debt Management. Too often one finds excellent records of receipts and disbursements with no attempt to evaluate the effectiveness of debt management. Is there a concerted effort by all concerned to fulfill the debt obligation both in spirit and fact?

7. Investment Policy. Do those responsible present information in a manner that permits effective investment policies? Relatively large sums are likely to lie idle with a consequent loss in revenue, unless there is a cohesive investment policy.

QUESTIONS AND ANSWERS

Why do you need an internal auditor? You need an internal auditor because you must rely on your account-

ing data. The internal auditor is one means that management has of receiving assurance of the reliability of its records. In most present-day colleges and universities, the internal auditor is a "must" if you are properly to discharge your ever increasing responsibilities to the governing bodies and the government.

To whom does the auditor report? He must report to a person sufficiently high in the organization to ensure careful consideration of his recommendations. This person is preferably the chief business officer.

Does your auditor have a plan of action? An absolute requirement for any successful program of internal auditing is the presentation of a comprehensive plan of action to the auditor's superior. There must be an understanding between the two of the goals, of the required personnel and material. Only in this way does the business officer see just what it takes to get the coverage he desires.

Assuming that a plan of action exists, do you periodically compare the accomplished results with what was planned for that period of time? Obviously, if the plan is not carried out, you need to go back and remedy whatever caused the lapse. Was it because the auditor was chasing so many foul balls that he never came to bat? Was it because you failed to convince the holder of the purse that the auditor needed an assistant? Whatever the reason, it is the auditor's responsibility to make clear to management the exact coverage that is being given. Too often management smiles and relaxes with the thought, "I'm covered; I have an auditor," without really knowing what the auditor is doing in the first place. Presence of the warm body in this slot is hardly sufficient.

AVOID OVERLOADING AUDITOR

Management must be careful not to overload the auditor. He must be able to sit back with his feet on the desk and think. His most important function in the organization probably is to do just that.

The impartial eye of the technician, the practiced hand of the puppeteer, the analytical mind of the mathematician, the questing approach of the diagnostician, the caution of a frightened doe, the ability to place all parts of the picture in their proper perspective—all these things must be present for the internal auditor to discharge his duty properly to the business officer.



President Ira Langston (in foreground) with two of the more than one hundred volunteers who offered their services for a day.

PARK AVENUE IN NEW YORK CITY IS a long way from Eureka, Ill., and vice versa, but last spring when Eureka College was looking for a new president it found him serving a pastorate at Eighty-Fifth street on fashionable Park Avenue in New York City. In spite of the fact that he had been minister of this distinguished old church for 14 years, he was still a remarkably young man.

One of the qualities that appealed to the trustees of the college was the fact that this young minister had led the New York congregation in financial drives that netted more than a million dollars.

Upon arrival in Eureka, Dr. Ira Langston found that plans for a centennial had been announced far and wide. Some grand ideas for programs had been adopted but means for financing were not yet clearly available.

In looking over the campus, Dr. Langston found numerous evidences of the ravages of time. "We certainly are not prepared for guests," he said. "If we cannot find ways of attending to some of these obvious and needy repairs it would be better for us to cancel the centennial plan."

Speaking in this vein to a group of laymen a few days later got an interesting and unusual response.

TOWN PAINTS GOWN—white

Citizens of Illinois community help new president and faculty spruce up campus for impending centennial

GENEVIEVE REITZEL

"We do not have the money that would be required to spruce up the college," one of the leaders said, "but most of us own our own homes and have some skill and some experience with decorating and repairs. We would be glad to contribute a day to getting Eureka ready for the centennial."

This suggestion found an eager response in the young president, and he immediately set about organizing to take advantage of the offer. When the necessary arrangements were made a date was set and invitations went out asking for definite commitments. The response was tremendous.

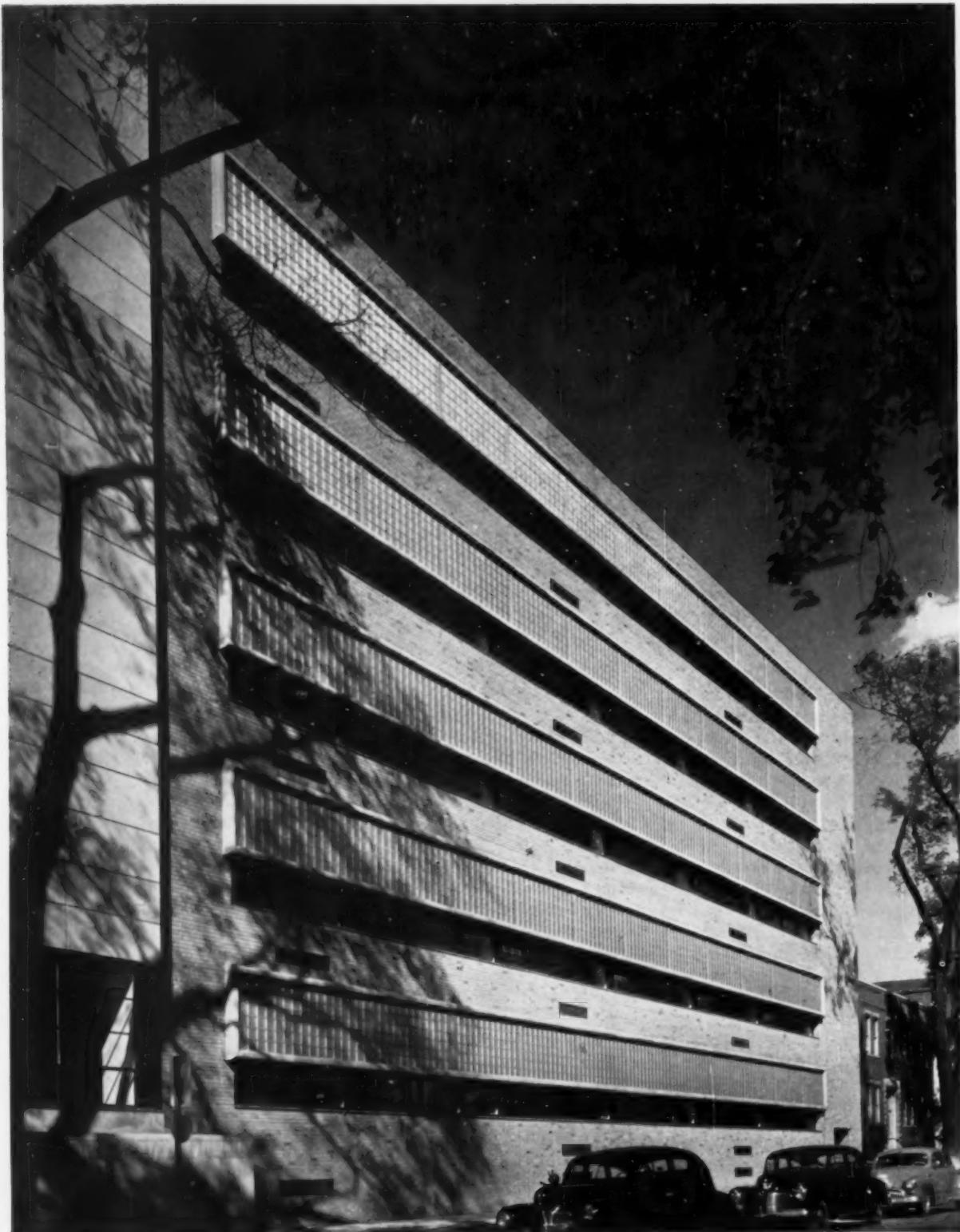
So on the appointed day more than one hundred volunteers from 20 churches spread 100 gallons of white paint. The painting job was matched by some sixty women of the Eureka Church and college group who prepared and served breakfast, lunch and dinner to the workmen. Prof. Lloyd Emmert, college registrar, acted as general chairman and headed up the project at the college. Gary Crone, leading layman of Peoria, was the prime mover in rounding up the support of the laymen's leagues of the area; Ralph Imhoff of the Eureka hatchery contributed and fried enough chicken for a sumptuous dinner, and R. N. Willems, a staunch Presbyterian of Peoria

and father of a Eureka student, supplied the scaffolding and directed the actual work as it was done.

The men represented 20 churches, eight of them in Peoria. Others represented the Churches of the Disciples from Pekin, Havana, Decatur, Washburn, Mackinaw, Eureka, Canton, Dixon, Bloomington, Niantic, Normal and Carlock. There were numerous alumni and former students, some parents, and present students in the group. Lida's Wood, girls' dormitory, and Gunzenhauser Hall for men were completely painted and some of the white trim on Magdalene Hall, girls' dormitory, also was spruced up.

It would be false to say that Eureka College is now ready for the returning hordes of graduates and friends, but the dining room and kitchen have new floors and a complete new decorating scheme; the president's house has been renovated throughout, and numerous other projects are plotted for the future.

Asked for a comment, President Langston said, "Eureka College still needs money, a great deal of money, but it is not difficult to get money when you have friends and few colleges can exhibit a finer demonstration of friendship than what has been seen here on the campus of Eureka College."



SCHOOL OF BUSINESS ADMINISTRATION BUILDING, MARQUETTE UNIVERSITY

Panels of glass block set in stone framing extend the length of the building and create an impression of great depth. Below the glass block panels are clear-vision strips. Completed in 1951, the building was erected at a cost of \$10.38 per square foot.

ECONOMICAL

to Construct and Operate

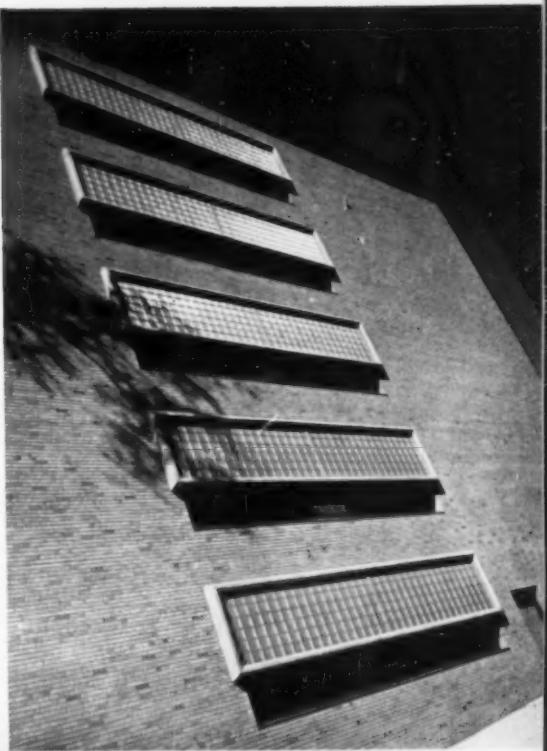
ROY O. KALLENBERGER

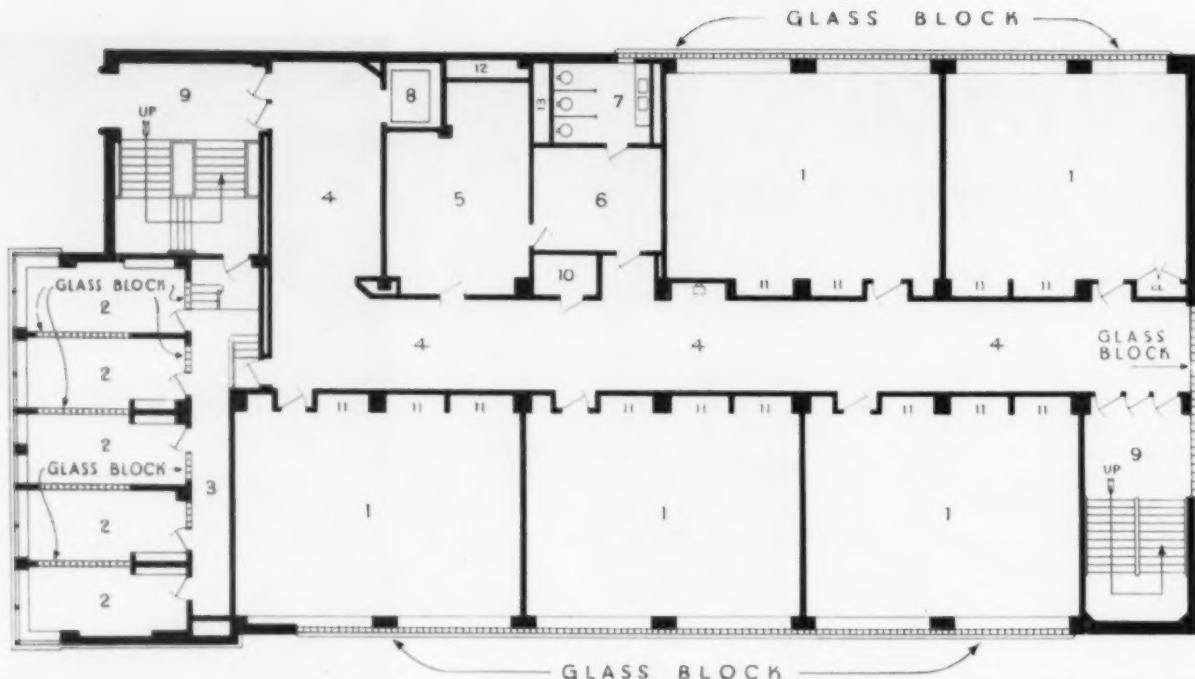
*Assistant Business Manager
Marquette University, Milwaukee*

THE ROBERT A. JOHNSTON SCHOOL of Business Administration at Marquette University, Milwaukee, is an example of how sound design can produce a building economical to construct and to operate without sacrifice of either beauty or functionalism.

Constructed of steel, stone, brick and glass block, the building cost \$560,700, or \$10.38 per square foot, excluding architect fees and school equipment. In its first two winters of use, university records show it was heated for less than half the cost of the average

Right: Safe daylight for corridors is provided by panels of glass block in rear wall. Below: White stone front and clear-vision steel window sash give modern appearance which offers contrast to older buildings near by.





Floor plan of one of classroom floors in School of Administration Building showing how space is utilized.

- | | | | | |
|----------------------------|---------------------------------|---------------------|--------------------|------------------------|
| 1. Classrooms | 3. Corridor for faculty offices | 5. Locker room | 8. Elevator | 11. Recessed wardrobes |
| 2. Offices for the faculty | 4. Corridor | 6. Women's restroom | 9. Stairway | 12. Ducts |
| | | 7. Women's toilet | 10. Service closet | 13. Pipe space |

building on the campus. Automatic controls of artificial lighting and washroom facilities resulted in additional economies, with water savings amounting to more than 500,000 gallons a year.

Designed by Brust and Brust, Milwaukee architects, in collaboration with the university's engineering department, the building was planned to take advantage of machine made materials wherever possible to reduce hand labor costs on the job.

A paper type of tube was used for forming on the overhang in front of the building, saving the cost of expensive wood forming usually used for such purposes. Extensive use of structural glazed tile in classrooms and corridors eliminated considerable plastering work and provided long-range economy because it requires no paint maintenance.

Prefinished acoustical metal pan ceilings snapped into place on T-bars also helped to reduce plastering and painting costs. Light fixtures matching the design of the metal ceiling were snapped into place, the same T-bar suspensions being used. This eliminated saddle supports and reduced installation time.

Convector, unit ventilators, and grilles and other metal parts were finished at the factory, so as to reduce painting work on the job site. A pre-

fabricated stainless metal coping was used to cover parapet walls. Placed over the finished brick, the steel coping gives complete protection and a finished appearance without the expense of setting stones or trim pieces by hand labor. Carpenter work was limited to doors for rooms and for wood paneling in the board room and dean's office.

The front of the building, where general offices and faculty offices are located, is six stories high with 8 foot ceilings in the faculty offices above the first floor. The rear portion of the building has five floors with classrooms above the first floor. The 18 classrooms, ranging in size from approximately 22 by 28 feet to 22 by 43 feet, have 10 foot ceilings. The building has a capacity of 800 students.

Classrooms have asphalt tile floors with glazed tile wainscoting. Walls are plaster and are painted in light colors to take advantage of the fenestration system that includes light-directing glass block in combination with clear-vision window strips.

The use of glass block eliminated the need for shades or blinds and the cost of their maintenance; their insulation value has materially reduced heat loss. The glass block also has reduced maintenance costs because it requires cleaning only once every two or three years, whereas clear glass would have

to be washed at least once every 60 days.

Each classroom floor has a large locker room for students. Classrooms have recessed wardrobe space and small storage cabinets for supplies. Restrooms for students and faculty are provided on each floor.

In addition to offices and reception room, the first floor contains a lecture room that seats 225, and faculty lounge, library, vault, storage room, and restroom facilities for both students and faculty. A student lounge is located on the third floor.

Five faculty offices, measuring approximately 8 by 18 feet, are located in the front of the building on each of the classroom floors. Faculty offices are separated by panels of glass block to get an even distribution of daylight the full length of the deep rooms. Offices are equipped with built-in bookcases.

A system of interconnected seven-day clocks automatically controls heating and ventilating, corridor and stairway lights, bulletin board lights, circulating hot water, and washroom automatic flushing facilities.

Classrooms when in use are heated with unit ventilators completely tiled in. The units operate in conjunction with classroom convectors that supply the rooms with the minimum necessary heat during unoccupied periods. The



Metal pan acoustical ceilings serve as reflective surface to distribute daylight in classrooms.

convector valves shut off automatically during the occupied time while the unit ventilator is in operation.

When the temperature is below the classroom thermostat setting, the unit ventilator carries a full supply of steam and the outside air damper is closed. As the temperature rises, the damper gradually opens and the steam valve gradually closes. When the temperature begins to exceed the thermostat setting, the damper opens all the way for partial cooling and the steam valve shuts off completely.

When the unit ventilators are off, the convector riser valves open, allowing an outdoor thermostatic control system to release steam into the convector coils. The thermostat shuts off steam completely when outside temperatures reach 65 degrees or higher. The dual system prevents convectors and unit ventilators from operating at the same time.

Classes in the building are arranged so that tiers of four rooms, served by the same risers, are occupied and un-

occupied at the same time, making possible a considerable saving in steam consumption. At night and on week ends steam and electrical power to the unit ventilators are cut off automatically and the convector system carries the heat load.

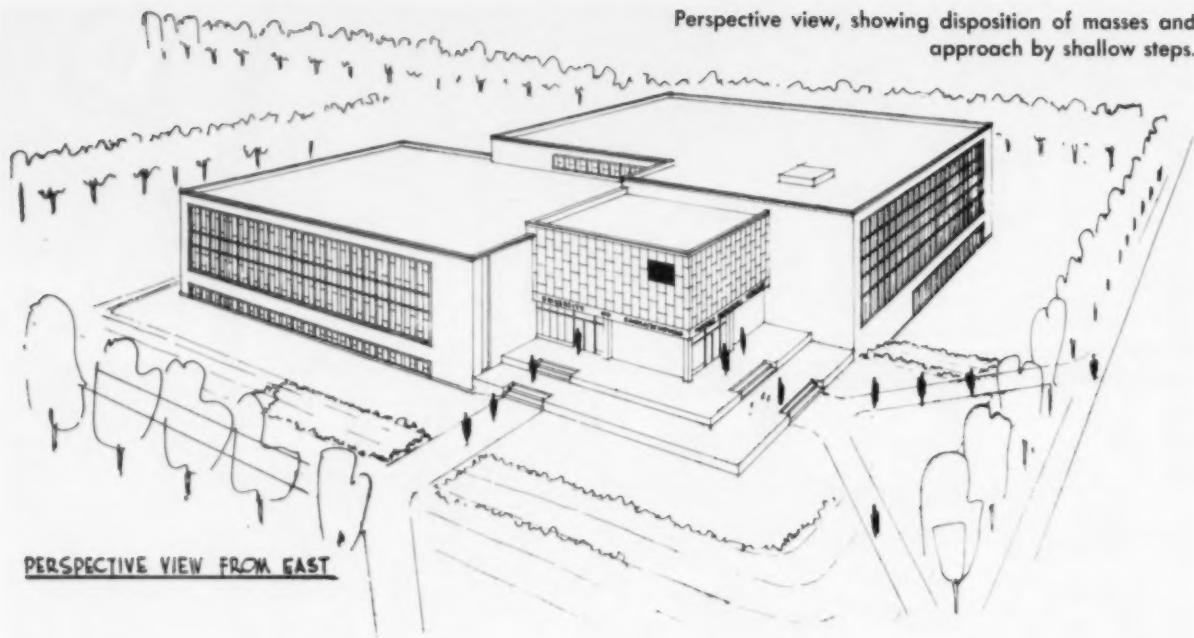
CONSTANT SUPPLY OF STEAM

Because the general offices and faculty offices have different occupancy periods than the classrooms have, both unit ventilators and convectors receive a constant supply of steam, which is controlled by thermostats in each room working in conjunction with a seven-day program timer.

Efficiency of the controlled heating system is indicated by the fact that the building was heated with about $2\frac{1}{2}$ pounds of steam per cubic foot per season in the first two winters as compared to 5 and 6 pounds per cubic foot for older buildings on the campus. During that period, the average mean temperature in Milwaukee ranged from 18.4 degrees to 29.7 degrees.

The same elaborate clock system automatically controls the turning on and off of lights in the various sections of the building. Corridor and stairway lights in the classroom sections automatically turn off when those areas are unoccupied. Circulating hot water and urinal flushing in the restrooms on classroom floors also shut off automatically when those sections of the building are unoccupied. As a result, lighting costs have been substantially reduced and water savings total more than 500,000 gallons per year.

Contemporary in design, the exterior of the building lends a note of fresh, new beauty to the old neighborhood in which it is located. Clear-vision steel window sash separated by stone spandrels gives the front of the building a clean, symmetric appearance. Panels of glass block set in stone framing extend the length of the building on each side and create an impression of greater depth. The stone framing also provides shade for the clear-vision strips below the glass block panels.



Primarily Library

**yet this three-in-one structure
preserves independence of other units**

D. C. APPELT

Librarian, University of Saskatchewan, Saskatoon, Sask., Canada

A SATISFACTORY SOLUTION TO THE problem of combining three virtually independent units in one building and a realistic approach to the currently popular idea of flexibility in libraries are perhaps the two most unusual things about Murray Memorial Library now under construction at the University of Saskatchewan, Saskatoon, Can. Although the university has been in existence for 45 years, this is its first library building.

Supported by the provincial government, the university is coeducational and has an enrollment of more than 2100 full-time students. The faculty has about 150 full-time members. On the basis of the present school population in the province, there should be more than 4000 students by 1965.

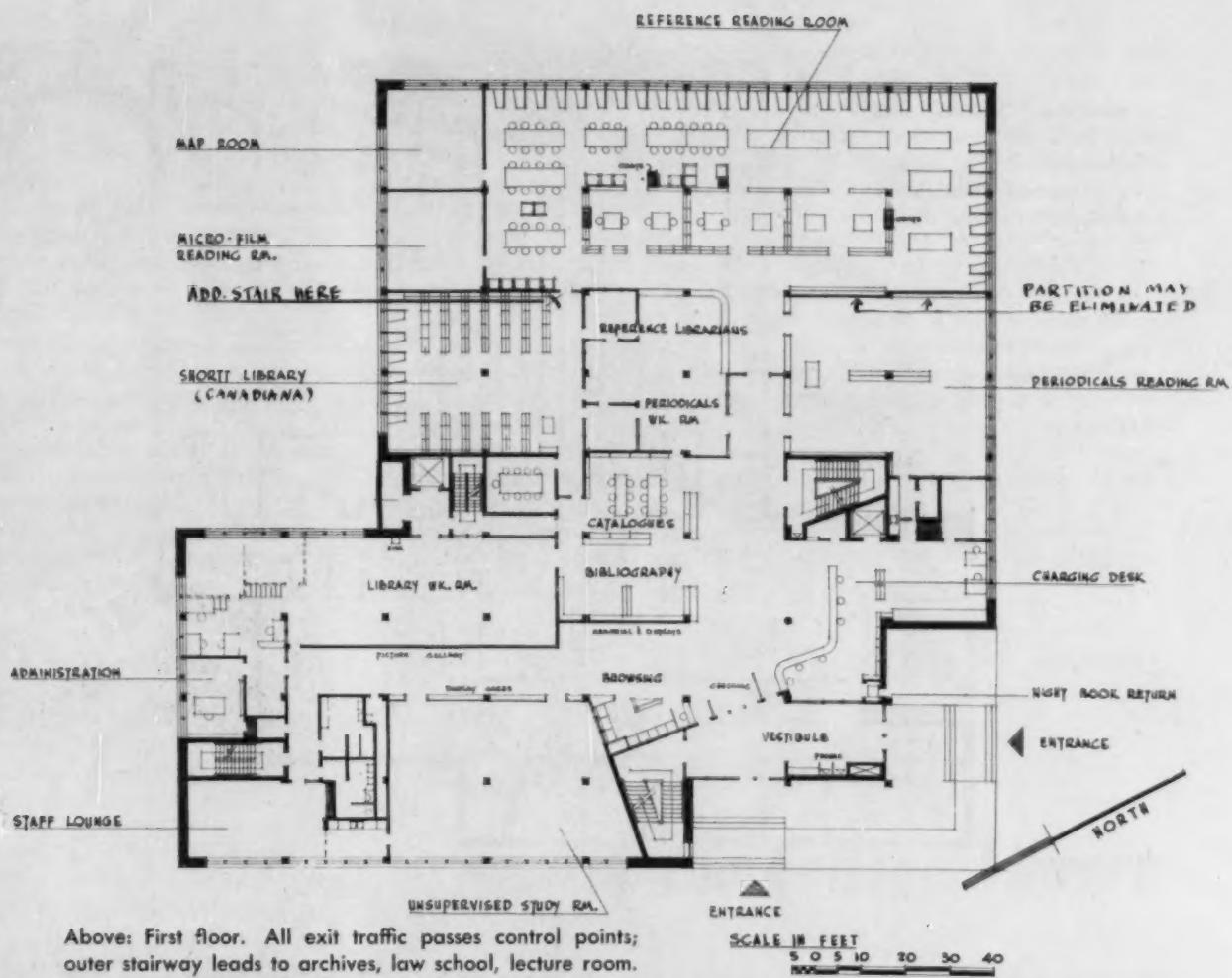
Requirements of size and space relationships were outlined by the librarian and library committee after

careful study and extensive travel to many outstanding new library buildings, from North Dakota to the Atlantic Coast, in both Canada and the United States. Valuable information also was gained through attendance at two library building institutes held by the Association of College and Reference Libraries. The architect, H. K. Black of Regina, Sask., was given complete freedom in translating the requirements into a basic plan, and he produced a design that has resulted in an inviting and distinguished modern building.

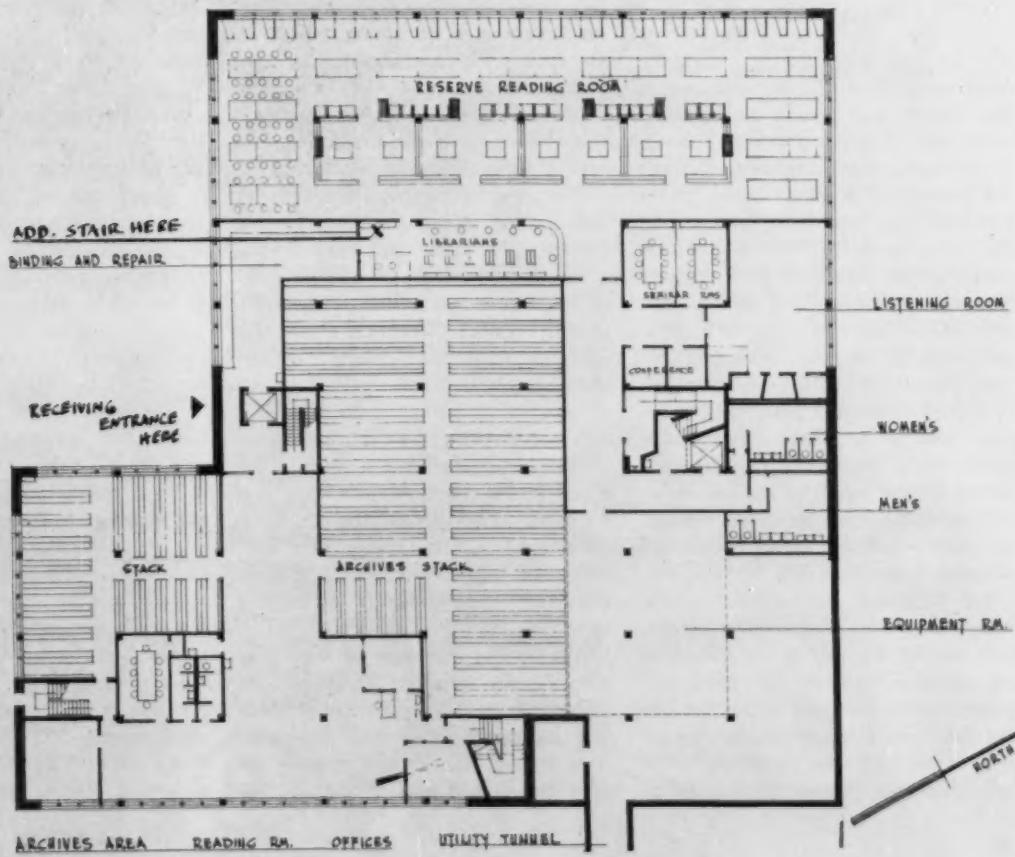
The exterior finish, a local rough-faced limestone laid as uncoursed rubble, with cut stone trim from Manitoba, matches that of existing buildings, but in line with its functional plan the library did not use Gothic details. Simple and straightforward, it depends for its beauty on pleasing lines and contrasting textures.

The building really houses three units under a single roof. The library occupies about three-fourths of the whole building. The Saskatoon office of the Saskatchewan Archives, a provincial government agency independent of the library, which is used largely for research in provincial and local history, has about 12,000 square feet of space on the ground floor. The college of law, including two classrooms, library and faculty offices, is temporarily accommodated on the second floor in space designed for future library expansion. Both these units are reached by a stairway outside the library proper.

With the exception of the medical section, the whole university library is housed in the new building. Four other departmental branch libraries in various buildings have been reduced to current reference collections, and material for sustained research has

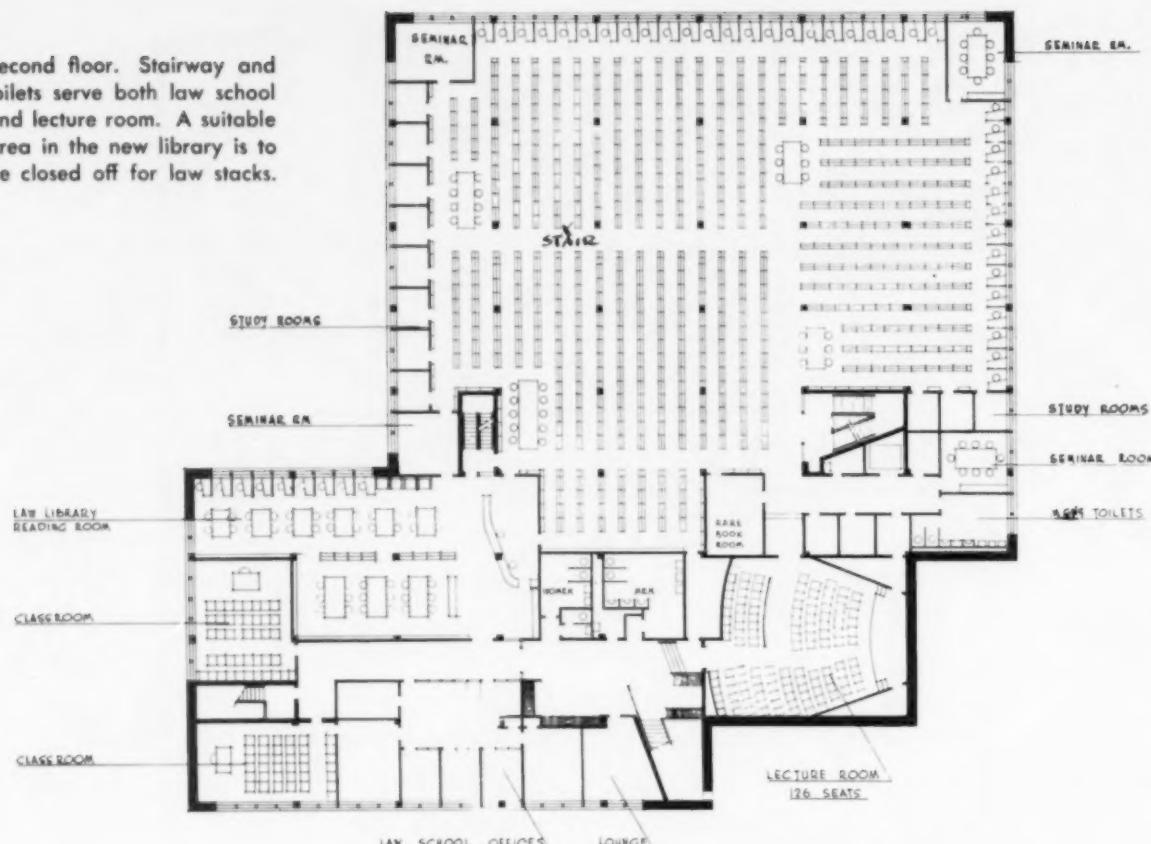


Above: First floor. All exit traffic passes control points; outer stairway leads to archives, law school, lecture room.



Right: Ground floor. Receiving entrance, serving both library and the archives area, is on this floor.

Second floor. Stairway and toilets serve both law school and lecture room. A suitable area in the new library is to be closed off for law stacks.



been brought together in the central library.

The first floor plan shows clearly how no time is wasted in getting the reader straight to the nerve center of the library—the catalog and bibliography area. There is a direct approach to the combination reference room and the periodical reading room, yet it is placed well away from the traffic of the main entrance. (The partition shown in the first floor plan on page 31 was eliminated.) Staff working space for reference, periodicals, acquisitions and cataloging adjoins the catalog, which is also in full view of the charging desk and reasonably close to it. These relationships, which were insisted upon, strongly influenced the layout of the first floor, and were considered important enough to justify placement of all bookstacks on other floors.

An informal, unsupervised study lounge and a small browsing corner, both just to the left of the entrance, are intended to draw off from the quieter areas the more casual readers and those who simply want somewhere to sit down and scan their own notes and textbooks. Those in search of

particular books on reserve go down the main inside stair to the reserve reading room, where about 2500 books are kept on closed reserve. Space is provided within this room for up to 5000 books on open shelves, if and when the more modern concept of an open reserve collection is accepted.

Everyone leaving the library proper (except in emergencies) has to pass the charging desk and exit check. Combining these avoids the necessity of keeping a checker on duty except in busy periods. The exit check is a new feature at the University of Saskatchewan and grows out of the decision to have the stacks open to all, a decision encouraged by the experience of Princeton and the University of Pennsylvania, among others. There is no book conveyor, and self-service is encouraged on the theory that staff time should be used only to help those who have some difficulty in helping themselves.

Around the periphery of the stacks are 84 study carrels. While they are intended mainly for graduate students, they are open rather than locked, so as to make maximum use possible. In some recent buildings, 75 per cent of

the closed carrels are said to be vacant more than half the time, yet the demand cannot be supplied. Profiting by such experience, Saskatchewan has supplied three lockers opposite each carrell and assigns these, rather than the carrells themselves, to individual graduate students.

Also connected with the stacks is a series of faculty studies and conference ("talking") rooms. Eleven seminar rooms are provided, mainly for departments in the humanities and social sciences. These do double duty as conference or meeting rooms when not scheduled for seminars.

The facilities for graduate students and faculty researchers are an unquestionable need, but the pattern of use in other respects is not so clear. Reading alcoves, or "oases," seating about 60 are dispersed through the stacks, to bring a seat reasonably close to any section, and the open carrells and conference rooms supplement these.

All floors were designed to carry the maximum load, the stacks being of the free standing type to permit rearrangement. The ceilings on the stack floors are at least 8 feet in the clear (about 8 feet 6 inches between the

beams). Thus more space for readers easily can be provided on the stack floors, and some of the stacks can be moved to a ground floor location in the reserve room if this proves to be desirable.

Relatively low ceilings, uniform throughout each floor, increase flexibility and utilize the building volume to the best advantage. With the closely packed multi-tier stacks that were common in most prewar buildings, all other areas were almost bound to be about 15 feet high. In this building, with less than one-third of the floor area devoted to stacks, such a system would have added about 150,000 cubic feet to the volume.

The plan is based on a 4 foot 6 inch square grid, to conform to standard stack spacing. The modular bays are 18 feet by 22 feet 6 inches on column centers, except for the two rows of bays in the large reading rooms, which are 22 feet 6 inches square. Although the only permanent interior partitions are those enclosing stairways, elevators, washrooms and mechanical equipment, flexibility is limited somewhat by the main ventilating ducts. Complete convertibility, allowing any area to be subdivided for any sort of use, made the air distribution system too expensive.

A perimeter heating system using hot water convectors compensates for heat loss from the walls and windows. Steam to heat the water is supplied from the central campus plant. The system has been zoned in accordance with the different exposures of the building. The temperature of interior areas, where there will be considerable heat gain from human occupants and from lighting, is controlled by the air circulating system, which distributes humidified and tempered air to all parts of the building.

The climate, which is very dry in winter and comparatively dry in summer, calls for reasonable humidification all year round, but not for summer refrigeration. Not less than 30 per cent relative humidity is maintained in winter, except for very cold days, when an automatic control temporarily reduces it to eliminate condensation on walls and windows. A degree of summer cooling has been achieved by the intake and recirculation of cool night air, since temperatures drop below 55 degrees F. during most summer nights.

Incandescent fixtures, in a diagonal pattern to allow changes in the direction of bookstacks, were recommended

for the stack areas, with wiring and fixtures designed for the heavier loads required for reading should conversion of stack to reading space take place in the future.

Other features of the building include: (1) the lecture room, equipped for projection of films and slides (reached without passing through the library, and ingeniously located so as to form a feature over the entrance and to have the requisite ceiling height without interfering with floor levels); (2) the soundproofed listening room for speech and musical recordings; (3) the receiving entrance (now transferred to ground floor), serving both library and archives; (4) the "behind the scenes" workroom in connection with the reserve reading room; (5) the dispersal of coat racks, a system preferred to a central checkroom.

Ceiling heights of the main and ground floors are 10 feet in the clear, with 9 feet 6 inches in the law wing. Floor coverings are mostly rubber tile, chosen to give a combination of comfort, quiet and attractive colors. Asphalt tile is used on the ground floor and terrazzo at the entrance. The glass entrance doors will be flanked by large panels of polished granite.

Foundation walls and spread footings are of reinforced concrete; the superstructure, steel frame; the floors, concrete slab on bar joists, except the ground floor, which is concrete slab on tamped gravel fill with drainage tile under. The stone facing of the exterior walls is backed with 8 inch hollow tile, 2 inches of rockwool bat insulation, and the interior finish. The flat roof is tar and gravel over 2 inches of rigid insulation.

Quality, not Quantity, for the College Library

**HASTINGS A. BRUBAKER
HARLAN S. KIRK**

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Lawrence College, Appleton, Wis.*

THE COLLEGE OR UNIVERSITY LIBRARY, next to the faculty itself, is the center, the cultural focus, of any educational institution. The library, therefore, must receive the careful and continuing attention of faculty and administration in order that it may meet adequately the needs of its institution. And it must receive adequate financial support.

Just how adequately any college or university library meets its obligation is difficult to determine. Qualitative matter cannot be represented by quantitative statistics. And yet it is on the latter we have very largely relied and it is by quantitative statistics that we have most generally judged.

Some of the objective criteria used, for example, by accrediting agencies in judging the quality of one library as against another are: (1) the per cent of the total educational budget allocated to the library; (2) the per

cent of the total library budget allocated to books, periodicals and binding; (3) library expenditure per student, and (4) the size of the library measured in number of volumes.

An attempt is made to compare the value of the libraries of five midwest liberal arts colleges, using these criteria, inadequate and misleading as they may be.

1. Figures for the academic year 1952-53 show that A College allocated 5.17 per cent of its total educational budget to support of the library; C College, 4.77 per cent; D, 3.92 per cent; E, 3.60 per cent; B, 3.46 per cent. The median is 4.31 per cent; the average, 4.18 per cent. (The average for all college and university libraries in the United States is 3.33 per cent.)

2. If we look at the figures that set forth the per cent of the total library budget allocated to books, periodicals

and binding, we find that B College allocated 35.5 per cent; E, 34.3 per cent; D, 25.5 per cent; C, 25.0 per cent; A, 23.6 per cent. Excessively high figures would seem to indicate low salaries or a low number of professional librarians on the staff or both.

3. Per student operating expenditures of the five college libraries are as follows: C College, \$43.42; A, \$43.41; B, \$39.83; D, \$30.01; E, \$28.91.

4. A fourth factor used in judging the "quality" of libraries is the number of books they contain. The latest published figures show that A College has 179,970 volumes; B, 146,989; C, 92,207; D, 73,191; E, 53,863.

OPEN TO QUESTION

The adequacy of any or all of these means of measuring the quality of a college library, and particularly the fourth, is open to question. The size of libraries has received undue emphasis because it was most obvious and therefore provided the most publicity.

The history of libraries, including college libraries, in this country for the period of 1900-50 is one of enormous growth. Book stocks doubled and trebled in size, representing an investment of millions in buildings to house them and staffs to service them.

Two forces lay back of this astonishing growth: (1) the tendency on the part of Americans to equate quality with quantity, and (2) the belief that every book contains something of value and should be preserved. The absurdity of the first point of view we all recognize in principle, though not always in practice, for the factor of respectability based on quantitative measurement often enters here. The element of truth in the second is just sufficient to make the argument an insidious one.

The rapid expansion of libraries is self-evident. The use of them by undergraduates, on whose account primarily they were acquired, is in most institutions not so evident. It is, in fact, distinctly disconcerting. As the problem of getting sufficient use of these enlarged college library resources to justify the investment that has been and is being put into them has not been entirely satisfactorily solved, college and university administrators and librarians are coming more and more to realize that continuance of a policy of indefinite expansion is out of the question. When so wealthy an institution as Yale University comes to this decision, it is not hard to understand

why the small colleges, whose very nature forces them to face practical problems of finance (which inevitably control size) sooner than the larger and wealthier universities, are reexamining the policies, and why there is increasing discussion of the concept of a maximum optimum size for college libraries. No two people will as yet—or perhaps ever—agree as to the precise size of the library for a college of a given enrollment, but in general terms the proposition is gaining acceptance.

Putting a limitation on the maximum size of a college library does not mean that we are automatically endangering its quality. We begin with the concept of a strong but limited working collection. This would consist of adequate representation of the major writers in those fields of knowledge actively taught, the writers to be represented by the best critical editions, commentaries, treatises and translations.

For the use of advanced students, undertaking tutorial or honors programs, some special studies will be needed. To avoid the building of a haphazard collection there might well be concentration here on a specific area within the particular broad field.

Some attention also must be given to the needs of the faculty engaged in its own studies and research, though for the most part the small college must meet these needs through the interlibrary loan service or some other means.

BIND PERIODICALS

An adequate list of periodicals, again selected for their quality and relevance to the teaching program, must be subscribed to regularly and those which are most valuable and subject to the most use must be bound.

Duplication of materials must be kept to a minimum. It is not the function of the college library to furnish textbooks or their equivalent to students. Every title duplicated means a new title not purchased and excessive duplication produces not a library but an overgrown reserve book collection.

At the same time that we strengthen the library through the addition of materials carefully selected for their intrinsic worth and for their relevance to our teaching program, we carry on the process of making the permanent collection more useful by weeding out materials whose use has passed. During the period of rapid growth many items

are received as gifts and added uncritically to the shelves to fill up space and provide impressive quantitative statistics. Some of these items had little or no intrinsic merit at any time; others were unneeded duplicates of titles already owned. There are also those books whose usefulness passes in a few years. Obsolescence is especially high in such fields as education and science, though for different reasons.

This weeding process tends to slow down the rate of growth while increasing the actual strength of the library as a working collection that meets the needs of the teaching program. It is a process which probably all small college libraries follow, at least to some extent, and which, in the past few years, even large university libraries have turned to in order to meet the practical problems of their budgets, which, astronomical as they may seem to us, have for them, too, their limitations. It is a process that goes on all of the time, for by the time the collection has been thoroughly surveyed it is time to begin all over again. It is conceivable that the annual withdrawals of any small college library might come near to equaling the accessions.

CONSIDER SIZE AND USE

With present building costs putting the figure for keeping each volume on the shelf, whether it is used or not, at about \$10 (to which must be added the cost of acquiring and processing the volume and the annual cost of service, which brings the total cost to about \$16 per volume), college and university administrators and librarians are forced to give serious consideration to the problems of the size and use of the book collection. Every book recommended for purchase should be weighed in the light of these facts. It is impossible, of course, to avoid the acquisition of some ephemeral materials when buying current books, but they should be kept to a minimum.

Frequently, larger budgets only lead to looser acquisition policies. Care must be exercised to purchase currently published books whose merit and relevance to each school's particular function recommend them. At the same time, funds should be allocated to fill in some of the gaps in collections when books of merit published in the past had to be passed over when budgets were inadequate.

If money is used wisely, libraries should grow each year both in quality and in quantity.

Warning to state colleges and universities:

U.I.C.'s Are Dangerous

HARVEY SHERER

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THERE SEEMS TO BE A RENEWED interest in Unit Instructional Cost Studies (referred to henceforth as U.I.C.'s). The Ohio Legislative Council has requested financial reports and registration figures from other state colleges and universities and intends to make unit cost studies. The Texas Legislative Council is in the third or fourth year of a study of unit costs. The state colleges of California are in the midst of a U.I.C. analysis. The Fund for the Advancement of Education backed a unit cost study of 60 liberal arts colleges. Most business officers also are aware of the Big Eleven study. Undoubtedly there are others.

The men who are struggling with these computations have my sympathy. The effort to bring such diverse enterprises into comparison must necessarily be strenuous. They may have to make some arbitrary decisions. So, if the Big Eleven and the "60 Group" come up with figures that might be subject to criticism, have patience. They have a precedent in the biggest, and presumably, most efficient enterprises in the commercial world.

I am not going to discuss the danger of U.I.C.'s to privately controlled schools because each one can act to avoid or to answer the results of such studies. But a state college is at the absolute mercy of a legislature. If that legislature or its budget committee becomes misled by U.I.C.'s, irreparable damage can be done.

Why do I think that U.I.C.'s are dangerous? Because this is the conclusion I have reached after an exhaustive study and evaluation of the published studies.

The history of U.I.C.'s goes back at least to 1894. That was the year President Coulter of Lake Forest College used per capita costs to prove that a lot of students were not getting "educational value." The trail of experience leads through the first efforts at uni-

form accounting in 1904; the influence of the newly developed cost accounting technics (developed by mechanical engineers—not accountants); the effort of the Carnegie Foundation for the Advancement of Teaching to develop uniform financial reports; the work of the General Education Board and Trevor Arnett.

Then we must consider the work of H. J. Thorkelson at the University of Wisconsin and the work of E. B. Stevens and the Joint Board of Curriculum of Washington. Then there was the work of Lloyd Morey, who early developed technics for finding net cost to the state and who has repeatedly warned against illogical comparison of such figures; also there is the work of the committees of business officers in both the central and eastern associations. In the late Twenties and early Thirties Floyd W. Reeves and John Dale Russell proved that, at least in accreditation procedures, high U.I.C.'s are the goal to be sought, not the low U.I.C.'s. Finally, George Van Dyke developed the presently approved technics for computing U.I.C.'s in the Thirties while acting as technical secretary to the National Committee on Standard Reports.

RESULTS NOT SATISFACTORY

In all this history, what do we find? Do we find an accounting tool that produces useful figures for the effective educational management of higher education? I only wish it were so! The present approved methods, as published in Appendix A of "Financial Reports for Colleges & Universities," do not yield such results. Every unusual figure, high or low, is found to have a perfectly logical explanation. High U.I.C.'s? (A course is just getting started with few students.) Low U.I.C.'s? (It is a pure lecture course, such as first-year economics.) Higher U.I.C.'s? (It is a graduate course—

few students with personal instruction.) Anything unusual is revealed to be the result of the number of students involved—too few or too many—or of an educational policy that you would not change if you could.

The danger of using methods for computing instructional unit costs that are effective in factories lies in the fact that the results are educationally serious. If you want to be jarred with a coldly logical action based on such figures, I suggest you read in *School and Society* (March 13, 1920), President Stowe's description of how U.I.C.'s were computed at the University of Toledo. The low was \$0.25 per unit, with a top of \$0.77. Dr. Stowe wrote: "It is not by accident that four of the men whose per-student-hour costs were above 40 cents are no longer in the service of the university."

Now, that is a real danger! Professors being dismissed because their U.I.C.'s are too high! The professors have no control over the costs and to be fired for something beyond their control is unjust. Such a process would wreck the morale of any university. It might improve efficiency in a factory, but it would utterly destroy the effectiveness of a faculty.

A university is not a factory; it is in the nature of a service organization. It preserves knowledge, it develops knowledge, it serves the people, it counsels and guides the students, it houses students, it cares for their health (both mental and physical), and it passes knowledge on to the present generation. It takes years to know whether the student has or has not assimilated anything from his classes.

A college is not a factory into one end of which is fed raw green freshmen, where professors pull various levers called lectures, and where knowledge is automatically injected into student skulls. This pseudo-factory does not, automatically, after four

years of proper curing, heating, washing and polishing, produce urbane, polished, poised and mature graduates. You cannot produce doctors, lawyers, accountants, statesmen and educated leaders merely by pouring out information. Higher education is not a production process; it must be actively sought and earned individually. It's not a matter of "producing" credits; it's a matter of "earning" credits. And we can only judge it by the utilization that its graduates make of the knowledge offered.

In other words, there are dangers in U.I.C.'s, educationally speaking. They are interesting but, like dynamite, they are likely to go off. If you seek high U.I.C.'s you are likely to be accused of wastefulness. If you seek low U.I.C.'s, you are underpaying your professors or overloading your professors. You are damned if you go high, and doubly damned if you go low. Like a high-lo game, you're likely to lose both ways.

Still another dangerous attempt to lower U.I.C.'s is to increase the number of courses or sections taught by one professor. Here, on the basis of personal experience, I object! Any professor with 16 or more class hours is overloaded. The college is not getting the kind of teaching it has a right to expect from anyone with a higher load. No man can do a more effective job of college teaching 16 hours than he can of teaching 12 hours. Twelve hours is about all he can prepare for thoroughly and have the vigor, enthusiasm and drive to excite student interest in the subject.

The tendency among most faculties is to attempt to do too much. This always has been characteristic of professors. Their enthusiasm and interest in their fields are likely to overpower their better judgment, and they almost invariably are active in studying, teaching, research and in extracurricular but allied activities (student clubs, learned societies, writing for the various journals). I have found few lazy professors. At the same time, occasionally a faculty will be found with what seems to be a light teaching load. It seems unfair and illogical for a faculty to claim six hours a week, for example, as a full-time teaching load. (This refers to the individual, *not* the average!) Such a light teaching load might be logical for a professor who is doing other things; his administrative load, his research or his prestige may justify the light load. But if there are sufficient students interested in the field, six

hours is too small a load for a departmental faculty.

I remember a class in advanced accounting getting sidetracked on an hour-long, heated discussion on the freedom of the press and its attendant responsibilities. It was kicked off by some problems in the newspaper publishing business. I was thinking as fast and as hard as I ever have in my life to keep those youngsters arguing and thinking. It was work, believe me! You can't guide discussions like that if you always are tired because you are worriedly trying to keep U.I.C.'s low by carrying a too heavy load!

Those classroom discussions may not be the essence of higher education but they're part of it! Effectiveness, not efficiency, in instruction is the essence of higher education. Efficiency in business management, yes. But in a long-pull investment, I want effectiveness. Short-sighted so-called economy and surface efficiency may, and frequently have, annulled many years of achievement in worthy long-pull investments in higher education. Our business is higher education, not financial reports or garbage removal or the unit costs of ash removal.

FIGURES ONLY ONE ASPECT

Effective administrators and executives in business, in government, and in higher education always have realized that there were more than just cost figures to be considered in every facet of their activities. Figures are only one aspect of any problem—essential, yes, but still only a part of the total picture.

The practice of looking at goals, of examining the whole picture instead of only historical costs, is essential where the "approved" technics do *not* develop figures that can be depended upon as a basis for good management action. Our present methods reveal nothing that was not already known or that cannot be explained by logic or simple arithmetic. U.I.C.'s as computed today are not effective management tools.

It has been a painful, tortuous road to reach such a conclusion. But no other conclusion can be reached after an objective examination of *all* the evidence. Much as I would like to have a genuinely effective management tool, honesty impels me to report that present methods are not satisfactory. In fact, they are dangerous because they do seem so accurate, so carefully computed, so "practical," so "conserva-

tive." They are misleading also because of their resemblance to factory unit costs, which *are* effective for factory management. But anyone who relies upon unit instructional costs as guides to major educational decisions is going to be disappointed. Educationally wise decisions cannot be made on the basis of U.I.C.'s, as presently computed.

What we need is a technic that will give us figures that lead to educationally wise decisions. U.I.C.'s computed by the "approved" methods of today tend to emphasize the immediate specific expenditure without consideration for quality received. Furthermore, at present we have no standards by which to judge the future quality of the immediate in higher education. Higher education is an investment of the present and past generations in the coming generation with the firm belief that the future generations will profit and be better than we are. We have a duty to see that this continues. Any practice that shortsightedly looks at present expenditures and fails to consider results is dangerous to this *generally accepted* practice.

Since reaching my conclusion regarding the poverty of the unit instructional cost technic and examining it as objectively as possible, I have been searching for some other approach to effective management. So far I have found just one that seems to offer definite possibilities.

This technic is one those in an allied field are beginning to develop. I am referring to the use of the performance budget. It is a technic at present in its infancy, but it shows great promise. Two recent publications of the Municipal Finance Officers Association of Chicago might well contain the essence of what we are searching for. "An Administrative Case Study of Performance Budgeting in the City of Los Angeles" by George A. Terhune, published in February 1954, is one of these bulletins. The other is "Performance Budgeting and Unit Cost Accounting for Governmental Units—Discussions During the Workshop Session" by Frank A. Lowe, Orin K. Cope, and Joseph M. Cunningham, published May 1, 1954.

The whole approach of the performance budget seems to offer exciting possibilities for the more effective management of higher education. If we could develop these new technics now in the experimental stage, we might have something of value.

PREVENTIVE MAINTENANCE, IN THE larger sense, is the name that can be applied to almost all the activities of the maintenance department. All materials, whether mined, quarried, grown or manufactured, begin to deteriorate as soon as they leave their native environment and anything done to slow the rate can be classed as preventive. However, in this discussion I hope to narrow the subject to specific items that could benefit from the knowledge, skill and judgment of the physical plant administrator if applied with proper timing.

Unlike preventive medicine which often can prescribe some drug at a specific time that will have an effectiveness for a specific period, the application of preventive maintenance can be done over widely varying periods before its success or the lack of it is apparent. Or it may be postponed entirely to save maintenance costs because obsolescence has overtaken the particular facility or because replacement is cheaper than maintenance costs are.

There is no simple formula that says, Do this at some particular time and it will be effective for such a period. The problem is bound up with the standards of the particular institution, the ultimate use of the particular facility, and the personalities or demands of the using agencies.

Obviously many troublesome maintenance problems are incorporated in the building when it is constructed. The institution that does not encourage or permit its physical plant administrator and his staff to check the building plans on new work is throwing away maintenance money. But even when the practice of inviting physical plant personnel to criticize the structural plans and specifications is followed, it is improbable that all the costly maintenance practices that may ensue will be eliminated. Factors of initial cost may prevent the selection of the better material or higher labor costs may be prohibitive for the budget of the installation. Likewise, some shoddy work will get by the inspector, and even the better contractors will find some poor workmanship installed and covered up without their knowledge or intent.

Once buildings, new and old alike, have been turned over to the physical

From a talk delivered before the Eastern regional meeting of the Association of Physical Plant Administrators.

A "switch" in time saves nine

That's Preventive Maintenance

OTTO KOHLER

Business Manager

Mount Holyoke College, South Hadley, Mass.

plant administrator, the job is to prolong their usefulness in the most economical manner for the longest possible period of time. To accomplish this, the most important task is inspection. This is a job not easily delegated because only the administrator can weigh the importance of one project over another in the light of the staff available and the over-all budget allowance. The custodian can keep the plant administrator informed on minor maintenance items, such as loose hardware, broken flooring, dripping faucets, or loose blackboards, and may even be delegated to repair some minor items if he has sufficient skill and intelligence.

If a student organization assists in fire drills, it may help by reporting on standards of good housekeeping, such as rubbish removal, prevention of blocked exits by stored or unused furniture, and fire extinguisher checking. Periodic reports from faculty or department chairmen will be of assistance in gauging the effectiveness of the physical plant department's activities in their behalf. But, unless the plant administrator has an assistant whose judgment he respects he still will need to look the property over himself to pick up what the others may have missed and to evaluate all the needs in terms of the over-all ability of the organization to accomplish the job and of the funds in hand.

In addition, several state agencies conduct inspections in our state (Massachusetts). The department of public safety usually is concerned with the enforcement of certain provisions of law pertaining to exits, smoke partitions, and fire escapes. The department

of labor and industries is concerned with employee safety, such as proper scaffolding, machinery guards, and dust hazards. These are important matters to prevent a suit for criminal negligence in case of an accident.

Insurance companies render a valuable service in inspections and their recommendations never should be taken lightly. Fire insurance companies report on the adequacy of extinguishers, the condition of sprinkler systems, and unsafe storage or working practices. Elevator inspectors report on vertical transportation, and machinery policies call for periodic inspections of transformers, boilers and certain motors in strategic locations where malfunctioning would cause serious curtailment of institutional activity.

These inspections and reports will inform the plant administrator on the extent of the maintenance problem. To analyze the preventive aspects these questions should be discussed:

1. What should have been done originally to minimize the maintenance costs?

2. Can it be done economically now?

3. If not, what can be done, within cost limits, to keep the problem from growing?

Ten topics are suggested on which to base the discussion, not because they represent all the possible groupings but because of the limitations of time: (1) foundations; (2) wall structures, masonry and wood; (3) roofing, both coverings and flashings; (4) fenestration and glazing; (5) floors; (6) plumbing; (7) heating; (8) electrical work; (9) fire prevention, and (10) roads and walks.

**This is the second and final installment
of Connecticut's experience in**

Selecting and Buying Paint

WALLACE A. MOYLE

Supervisor, Plant and Maintenance, University of Connecticut, Storrs

THE FIRST PROPERTY LOOKED FOR IN a paint is its ability to cover the surface on which it is applied. This is called hiding power. It is the degree of opaqueness developed by the film. If light penetrates the paint, strikes the surface, and is reflected back to the eye of the observer, the film is called transparent. This takes place in films formed of the vehicle alone. Pigments added to the film impede the travel of light and bend some of the rays away from the line of sight. As more pigment is added, more light is shunted away at many different angles. Finally a point is reached at which virtually all light rays are bent away from the line of sight, none is reflected from the surface being covered, and the film is said to be entirely opaque.

Paint coverage appears to have two components. One is the physical covering of a surface by applying a blanket of prime pigments having varying degrees of opacity. The other is by refracting light from the surface in such a way as to divert it away from the observer's line of sight. Refraction can be obtained by use of the so-called extender pigments, which are cheap in comparison with prime pigments. This creates an apparent hiding in the finished product that will show up well on the refracting meter.

This apparent coverage changes as the paint washes. Extender pigments generally are bulkier, resulting in a more porous film; they measurably reduce the durability of the product. Washing will be more difficult because of greater instability of the film and therefore will be costlier. The resultant surface will be more porous and less attractive owing to the change in refraction. Obviously this "apparent" coverage is cheap when compared with the "physical" coverage relying on the presence of the better grade, more expensive pigments.

The various pigment particles do not affect light transmission in the same degree. The effectiveness of each can be measured by instruments and is expressed numerically by a figure called the index of refraction. Some typical examples are:

Material	Index of Refraction
Titanium dioxide.....	2.76
Zinc oxide.....	2.02
Titanium calcium pigment.....	1.91
Asbestine	1.55
Silica	1.55
Heat bodied linseed oil.....	1.50
China wood oil.....	1.52

Attention is invited to the figures for inert or extender pigments (asbestine and silica), which are about the same as for the vehicles. They contribute little to actual hiding since they bend the light rays only slightly more than the vehicle itself.

The index of refraction of a mixed paint is an involved figure to obtain and complicated to use in a practical manner. A simpler system of hiding units has been worked out for the various pigments. Known as the Hallet System, it is based on the hiding effect produced by one pound of basic car-

bonate white lead as 1.00 unit. The hiding value of commonly used pigments already has been shown.

Poor quality flat paints often have an actual observed hiding far in excess of the number of units in a good material because of the fact they develop additional dry hiding. This results from a lack of sufficient binder properly to wet all of the pigment particles. When dry, some of the unwetted particles stick up in the air and reflect light. This condition is associated with poor film density and poor hiding of the film while still wet.

The film the maintenance man wants in an interior paint is the one that gives the thinnest, densest, smoothest, most durable coverage. This kind of a film assures excellent wear, supports stains and dirt substantially on the surface, washes easily, and reduces to a minimum the amount of material dislodged by each washing. The resultant clean layer must have the same or substantially the same characteristics as the top surface and each succeeding layer must likewise be satisfactory in coverage and appearance.

Reason says such a product must be carefully formulated of selected and more expensive components, controlled at every step of its manufacture, tested thoroughly, and that it must have reasonable margins of safety built in. Good grinding, for example, is necessary. The smaller the pigment particle and the finer the paint is ground, the greater the surface area per gram (or other unit) and the greater the tendency of the vehicle to wet it.

The comparison of the hiding units of the prime pigments is a solid basis for comparing dollar value, other characteristics being equal. Somewhere on the scale of hiding units there is a point at which one-coat hiding is reached and below which two coats are needed to assure complete coverage. There is substantial agreement



Brush is used for interior trim.

that this point is 26 hiding units. A properly balanced 26 hiding unit paint probably will get a solid hide with one coat over any surface. If applied over a surface of approximately the same color, such a one-coat paint will produce complete hiding in all cases. If the 26 hiding units are calculated on the basis of the prime pigments, there is a safety factor to the extent of the value of the vehicle and any extender pigments.

Each hiding unit above 20 has a value of a little more than one up to some point between 30 and 35. In the latter range the law of diminishing returns begins to apply. Thus, if a 26 hiding unit paint will completely cover 500 square feet per gallon in one coat, one with 20 hiding units will cover only $20/26$ as much with the same film. On the other hand, one with 30 units would be expected to cover $30/26$ as much and result in a greater coverage per gallon. This can be translated into relative value.

The following calculations are based on the products of two highly reputable manufacturers. Both are alkyd resin flat paints. They have substantially the same characteristics both quantitative and qualitative. Paint A (26 H.U.) costs \$3.15 per gallon. Paint B (22 H.U.) costs \$2.90 per gallon. On the basis of hiding units the following equation will produce the relative value of Paint B to Paint A.

$$\begin{aligned} \text{Relative value Paint B} = & \\ & \frac{\text{H.U. Paint B} \times \text{Cost Paint A}}{\text{H.U. Paint A}} \\ \text{or} \\ \frac{22 \times \$3.15}{26} = & \$2.67 \text{ relative value Paint B to} \\ & \text{Paint A.} \end{aligned}$$

What does this mean in terms of painting costs?

It has been demonstrated that one gallon of 26 H.U. paint will completely cover 500 square feet per gallon with one coat and that the 22 H.U. paint will cover proportionately less with the same amount of coverage. Then Paint B will cover approximately $22/26 \times 500 = 423$ square feet per gallon, or 77 square feet per gallon less (15.4 per cent less) than Paint A. Since Paint A covers 500 square feet, the cost of material is $\frac{\$3.15}{500}$, or \$0.0063 per square foot. But to cover the same area with Paint B with the same amount of hiding will require 15.4 per cent more of Paint B or $\$2.90 + \0.45 , or \$3.40 compared with Paint A at \$3.15.



Rolling paint on interior surfaces is faster and tends to eliminate variation in individual workman's technic.

On a comparable basis the material cost for 500 square feet using Paint B at $\$3.40 = \frac{\$3.40}{500} = \$0.0068$ per square foot. This is an additional \$0.0005 per square foot. This may not seem important until the item of labor is considered.

It is probably safe to say one painter using a 9 inch roller can apply one coat of paint to 1600 square feet per day on a flat surface with no preparation involved. Cost figures at the University of Connecticut, which include painting trim, show an average of 800 square feet per man per day. In terms of a 500 square foot per gallon paint this is $\frac{800}{500} = 1.6$ gallons of paint per day. It makes little difference whether the paint is a 22 hiding unit paint or a 26 hiding unit paint, so far as the painter is concerned his daily average will be about the same in gallons. As a matter of fact, he may handle less of the 22 hiding unit paint because of the fussing necessary to get the necessary hiding. To get the same coverage with the 22 H.U. paint will require 115 per cent of 1.6 gallons or 1.85 gallons.

Labor is about 80 per cent of the cost of painting. The maximum annual pay rate at the University of Connecticut is \$4200 per year. Since each employee is absent an average of

10 per cent of the time because of vacation, paid holidays, and sick leave, his productive work time is 2080 hrs. (40 hrs. \times 52 weeks) - 208 or 1872 hrs. The cost per hour worked then is $\frac{\$4200}{1872} = \2.13 per hour or \$17.04 per eight-hour day. Translated into cost terms this is \$17.04 for 800 square feet or \$17.04 per 1.6 gallons of a 26 H.U. paint. The cost of labor then is $\frac{\$17.04}{800} = \0.0213 square feet or \$17.04 equals \$10.65 per gallon. The initial cost per square foot of Paint A is \$0.0213 (labor) + \$0.0063 or \$0.0276 per square foot.

The cost for Paint B is \$0.0260 + \$0.0068 or \$0.0328 per square foot so Paint B costs \$0.0052 per square foot more to use than does Paint A.

Let's look at another condition with regard to Paint B. Another vendor quoted us \$3.14 per gallon. On the basis of 22/26 H.U. the calculated relative value of Paint B to Paint A is \$2.67. At \$3.14 per gallon this paint then is relatively overpriced \$0.47 per gallon. At \$3.14 + 15.4 per cent (amount needed to cover 500 square feet with same hiding as A) the comparative rated value is $\frac{\$3.62}{500} = \0.00724 per square foot. This is a difference of \$0.0009 per square foot. On the basis of cost per square foot, Paint B at \$3.14 per gallon is \$0.0260 (labor) + \$0.0072 (material) or \$0.0332 per square foot.

To summarize the relative value on a hiding unit basis, see table below.

Let's translate this into annual figures for the painting operation at the University of Connecticut if only interior painting were done. There are 17 painters employed all year round. Each man is productive for 52 weeks, five days per week, eight hours per day, less vacations, sick leave, and holidays averaging 10 per cent or $260 - 26 = 234$ working days. Figures used above do not include the item of preparation necessary before paint can be applied and the overhead. This averages one cent per square foot. The foregoing figures must be adjusted for this item and become \$0.0313 for Paint A and \$0.0376 for Paint B. Translated

Relative Value on a Hiding Unit Basis

Paint	H.U.	Rated Value	Relative Overprice	Add Req. for 500 sq. ft.	Cost per sq. ft.
A \$3.15	26	\$3.15	0	0	\$0.0276
B 2.90	22	2.67	.23	15.4%	\$0.0328
B 3.14	22	2.67	.47	15.4%	\$0.0332

into square footage per day for the two products, the results are 544 square feet per day for Paint A and 453 square feet per day for Paint B. Thus in 234 working days 17 painters will apply

Paint A—
 $234 \times 544 \times 17 = 2,164,032 \text{ sq. ft. per year}$

Paint B—
 $234 \times 453 \times 17 = 1,802,034 \text{ sq. ft. per year}$
 $361,998 \text{ sq. ft. less for Paint B.}$

This can be a measurable loss of $361,998 \times \$0.0313$ or $\$11,330.53$. The loss is $\$9,064.43$ in labor against $\$2,266.10$ for material. In other words, it would be necessary to add at least two more painters to get the same square foot production with the lower hiding unit paint.

NUMBER OF WASHINGS

Washing paint is a major part of paint maintenance. Students are paying customers and properly can expect the areas in which they live and work to be maintained in a reasonably good condition. This can be accomplished by washing. The custodial force must be employed on an annual basis in order to keep personnel, and this group is available for such jobs as washing paint as part of the annual detailed cleaning of buildings. This is not all the custodial force does during the summer. The conference schedule is substantial and service of the hotel type is provided, i.e. rooms are cleaned and beds made daily.

All dormitory areas are washed annually. Washability of paint is not just an academic matter nor is it one of merely removing a few spots and smudges. It is a complete washing of the entire wall surface.

One-coat hiding alkyd resin paints are now marketed by reputable manufacturers who will warrant that after each of eight to 10 washings the resultant effect, when dry, will be free of streaks and that repainting will not be necessary until that number of cleanings has been done. Since corridors, stairwells and recreation rooms receive more severe treatment they are washed about twice as often as are sleeping rooms, and eight to 10 washings are required of the product.

If a paint fails because it washes only four times before repainting is necessary the cost of using that paint to meet a "five washings" standard jumps 20 per cent. In addition, the entire painting schedule is upset and can be reestablished only by changing the standard, adding more manpower,

or finding a material to meet the standard. Our experience assures us that suitable alkyd paints are regularly manufactured and marketed that meet the performance needed to maintain the present six-year standard.

The foregoing detailed discussion has dealt with material required to support only one standard. While it indicates the best materials cost but little more and their use may be justified administratively, some other material may fit another standard. If, for example, a two-coat system seems preferable a 20 hiding unit paint can safely be used if the additional labor cost is disregarded. It is doubtful whether a paint containing less than 20 hiding units is a "good buy" under any conditions. If there is to be no washing, one might also consider a paint with less exacting vehicle characteristics. A nonyellowing alkyd resin is not essential in deeper tints or colors and there are alkyls just as strong as the nonyellowing ones.

The following test of characteristics has been established for a semi-gloss alkyd white or tint.

Hiding units prime pigments.....	28
Vehicle nonvolatile by weight.....	49%
Pigment vehicle concentration by weight.....	47%
Grind.....	5
Stormer viscosity kreb units.....	80+2
Overnight gloss 60° glossmeter.....	65-75%
Time to dry hard.....	12 hours

The differences are two more hiding units, 20½ per cent more nonvolatile vehicle, and 6 per cent more pigment vehicle concentration by weight. The grind is two numbers finer. It probably will wash 10 times without the necessity for repainting. The difference in characteristics indicates why it is a more expensive item. The same type of analysis can be made as described for the alkyd gloss.

The third type of paint for which the committee has established requirements is the one-coat exterior oil paint, white and tints.

The following description is intended to cover a first quality, balanced, self-cleaning, one-coat hiding oil paint for use on exterior surfaces. The paint shall be of first quality and a regularly manufactured and standard item of the producer, marketed for public purchase for *not less than five years* prior to the date of the bid.

The vehicle shall be a suitable blend of "bodied," "heat-treated," or "processed" pure linseed oil so treated as to provide controlled penetration of the surface to which this paint is applied, to which pure linseed oil has

been added to impart suitable flow and leveling properties. "Pure linseed oil" as used in this description shall mean raw linseed oil from which fatty acids and similar detrimental ingredients have been substantially removed prior to other processing. The iodine number of the oil should be 183 to 188 to assure a high order of removal of fatty components, thereby assuring greater life through slower reaction.

The list of characteristics is:

Hiding units prime pigments.....	34
Film-forming solids by volume.....	85%
Stormer viscosity kreb units.....	87±2
Sq. ft. per gal. on smooth surface.....	550
Thickness of dry film.....	4 mils

The paint offered shall have been exposed on a substantial number of dwellings for at least four years, and the condition of this paint on the unshaded south side of such houses exposed open to the sun shall be good after four years.

The paint shall be capable of being applied with normal brushing technic at a film thickness of 4 mils when dry with little or no tendency to sag or to run when applied at that thickness. The film at that thickness shall dry normally and not be soft underneath as measured by a thumb smear test.

Other requirements are the same as previously listed except no washing test is applicable.

RESEARCH IS CONVINCING

At present the committee has no great amount of "personal" experience with this type of paint, but its research has convinced it the one-coat material is the answer to a lot of exterior paint problems.

First, a few words to the dyed-in-the-wool "oil and lead" painters. Up until the adoption of the alkyd resins for interior use, paints used at the University of Connecticut were lead and oil primarily because the two paint foremen, both master painters, had been brought up in that school. They have become converts to the use of new ready-mixed products. It was easier to sell them interior alkyls than it was exterior prepared materials. As studies proceeded it was found that the cost of mixing our own lead and oil paint was about 30 per cent higher than the highest priced, balanced, one-coat exterior paint. It was becoming increasingly difficult to find painters who could mix a consistently satisfactory product. A lot of time was wasted because only three or four of the crew knew how to match colors.

Some other solution had to be found and it seemed to lie in the use of manufactured paints. Studies uncovered other reasons for some of our paint failures. Variation in oil was one. Variation in thinners was another.

The research, testing and advice of manufacturers' representatives in dealing with special problems was extremely valuable. As information from many sources was accumulated a list of characteristics emerged that defined the properties of a good material. Other considerations are the need for structural balance and the fact that, although the formula of the material is substantially the same, paints of different manufacture do not give the same performance.

GOOD APPEARANCE COMES FIRST

Exterior paints are designed to fail systematically in order to retain good appearance of the building on which they have been applied. A premium is placed upon their use. Good appearance at all times is traded for reduced durability.

Chalking in exterior paints is a feature of design. The linseed oil is broken down by the ultraviolet rays of the sun. This releases the hold of the binder on the pigments. In presence of moisture a zinc soap is formed that acts as a detergent, which helps the freed particles to wash off when the rains come, thus keeping the surface clean.

Probably the most important requirement is the sworn statement of the manufacturer that the paint has been used commercially on real houses and that after four years' exposure on the unshaded south side of real houses the paint is in good condition. National manufacturers who have led in the development of this item warrant their products will stand this test in Florida, Mississippi and other southern states. In northern areas this performance should be exceeded.

This combination of requirements is necessary. Unthickened oils are drawn out of the mixture by capillary action very easily. This results in spotty performance of the film, the strength of which is reduced by loss of the vehicle. In wood, oil may be drawn into cells many layers below the surface. This penetration can be limited by thickening the oil so it will not penetrate at all and then thinning it with pure linseed oil so it will anchor the film only in the top

one or two layers of cells, which is sufficient. In this way the full film strength on the surface is retained.

The type and amount of prime pigments appear to be the key to good performance. Since titanium pigments are inert, they do not react as zinc and lead do. Thus they protect the oil from the rays of the sun to a greater degree and reduce the rate of failure. In a white or tinted exterior paint there must be a substantial proportion of such components to achieve the expected result. As colors are added, particularly the deeper ones, they perform this function and titanium pigments may be markedly reduced.

None of the committee has personal experience in the matter of relative costs for one-coat exterior paints. The reasoning found in the following example seems to be sound.

In exterior paints, the first cost in cents per square foot will be calculated on the basis of hiding units and square foot spread for each paint. This gives relative dollar values for the first cost. Then divide these figures by the number of years of life found by somebody's tests on real houses, to get the dollar value in terms of maintenance cost.

Consider a one-coat house at \$7 in comparison to an orthodox one at \$5 per gallon.

One coat applied at 350 sq. ft./gal.—film thickness 4.0 mils

Orthodox applied at 550 sq. ft./gal.—film thickness 2.15 mils

The one coat saves the labor of one coat of paint and, though its film thickness is not equal to two coats of orthodox paint, its greater hiding shields the oil better and gives it a life equal to the two coats of orthodox.

One coat

Labor 2400 cents per day	= 3¢ sq. ft.
800 sq. ft.	
Material 700 cents	= 2¢ sq. ft.
350 sq. ft.	
Capital outlay	= 5.0¢ sq. ft.

Two coats orthodox

1st coat labor 2400¢	= 3¢ sq. ft.
800	
2d coat labor 2400¢	= 2.4¢ sq. ft.
1000	
Material 1st coat 500¢	= 0.9¢ sq. ft.
550	
Material 2d coat 500¢	= 0.83¢ sq. ft.
600	
Capital outlay	7.13¢ per sq. ft.

Experience of this manufacturer shows a good one-coat paint erodes only 10 per cent of its film's thickness

in four years in Florida, so its service life is hard to estimate. But one coat of it, because it is a thicker layer and the oil is more highly protected by its higher grade and greater pigmentation, *will last at least as long as two coats of orthodox paint and probably longer*. Maintenance costs then in cents per square foot per year are:

One coat $\frac{5¢}{5\text{ yr.}} = 1¢ \text{ per square foot per year.}$

Two coats orthodox $7.13¢ = 1.42 + \frac{¢}{\text{sq. foot per year.}}$

At the University of Connecticut, one-coat exterior paints were introduced last year. Preliminary studies indicate the calculations shown here are substantially correct and that exterior paint costs can be reduced drastically by use of a one-coat paint.

MATERIALS CAUSE FAILURES

The committee is convinced it has made out a strong case for purchase of products that will do a really dependable job, a job based on performance, a job that places the responsibility for performance of the products selected squarely where it belongs—on the shoulders of the manufacturer who made them. The committee's observation is that, when painting is done by skilled professionals, failures result most often from the material used rather than from failures of workmanship. For this reason new bid offerings will require that each can not only bear the manufacturer's label with the general analysis of the paint but also the manufacturer's instructions for thinning and other information as to use.

The purpose of this approach is obvious. It is to buy proven products from reputable manufacturers. There is no obligation in public purchasing to buy inferior products simply because someone offers them. The greater obligation is to the taxpayers, to carry on public business efficiently.

The committee does not presume to assert its method is foolproof or that other products of special manufacture may not be just as good. It does say the experience is lacking to prove this and that the state should not be the testing ground of unproven products at public expense when reputable manufacturers do that work as a part of routine operations. Our committee is convinced the method can be defended without apologies to anyone, that it provides a practical basis, that satisfactory products are assured, and that resultant costs will be favorable.

The Men Who Came to Dinner

voted our monthly parties a success.

So also did the girls and the guests.

L. E. HORTON

Manager, Student Union, Bowling Green State University, Bowling Green, Ohio

KEEPING OUT OF THE PROVERBIAL rut is a constant challenge in residence hall food service. We try to avoid monotony by having a party meal once each month, instead of limiting special meals to Thanksgiving and Christmas. Our students show evidences of enjoying these parties and they actually look forward to them, planning activities in conjunction.

Personnel deans and house directors are notified early in the school year of party dates. On our campus Thursday dinners are scheduled—usually the third Thursday of the month—because this particular day conflicts with the smallest number of campus activities.

When the party nights are announced, the occasion for which the

menu will be written is also announced. Our schedule is as follows: *October*, Halloween; *November*, Thanksgiving; *December*, Christmas; *January*, party meal with motif decided by the residents; *February*, St. Valentine; *March*, St. Patrick; *April*, birthday party for all students; *May*, to honor seniors. (In freshman halls the girls have a farewell dinner.)

At Thanksgiving time we serve the traditional roast turkey dinner with all the trimmings. At Christmas steaks are the *pièce de résistance*, and at the other party meals we use various special foods and services. In April we celebrate the birthdays of all the students and the dessert is always individual birthday cakes with

lighted candles and ice cream. The parade of waitresses with their trays of lighted cakes into the dining room adds to the festive mood.

At the May dinner we offer a choice of broiled lobster tail or perhaps chicken, steak or something equally inviting. Our experience shows that only about one-fourth of the students choose lobster tail. In our opinion, this item is well worth our effort because the students have an opportunity to taste a food unusual in our locale. Certainly they find it less expensive to sample lobster at a meal in our dormitory than to try it at a restaurant.

Our students do not fast for a week or a month so that we can give to



Occasionally the party dinners are formal, but usually the girls wear dressy street length frocks, with high heeled shoes.



consistently good

Easy to make, economical and appealing to young and old, gelatine makes the universal dessert. Choose Sexton Gelatine Desserts to be assured of the most satisfactory results in every clime. We make them ourselves, particularly for multiple servings, using only the finest ingredients to make sure they keep their sparkling consistency and true fruit flavor. As companion desserts, serve Sexton Puddings, velvety smooth and dependably delicious.

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them one expensive meal, nor are our board rates considered high. The board rate at Bowling Green State University is lower than at many schools, and we manage to serve wholesome meals each day. Students are principally from near-by towns and rural areas; thus, they find it easy and convenient to go home on week ends. Because of this we gain a small margin of money to be used to improve the food the rest of the week and to have real parties each month.

Party meals do add to the workload of a kitchen. The problem of

additional preparation required to execute these party meals is handled by advance planning. Menus are written to give the cooks an opportunity to begin preparation either one or two days before the party, depending on what is to be served. With proper planning and scheduling the workload is kept at a minimum and when the cooks hear the compliments from the students the added work seems well worth the extra effort.

The luncheon main dish for the day of the party is one that can be easily prepared and served. It is usu-

ally the type of food that is a particular favorite of the students. This aids in building enthusiasm for the party meal. It's almost like having two parties in one day.

Within the residence halls the house directors and students work together in planning decorations for the dining rooms. Using the motif of the occasion centerpieces, place cards and wall decorations are planned. It has become a custom for the girls to dress for the party dinner. Occasionally the parties have been formal, but usually only a dressy street length frock with heels and hose is required. With a decorated dining room, a party menu and dress-up clothes, an atmosphere of gaiety develops. In the candlelight good fellowship seems to intensify as the meal progresses.

The food we serve is not always expensive. We have used individual casserole dishes, inexpensive cube steaks or ham dressed up with a broiled slice of pineapple or peach half. Individual places are set with the silver required for the meal. This helps the students to learn to handle the many pieces of silver encountered at better dining places. For instance, when an individual casserole is served the students are given a serving spoon and expected to serve from their own casserole in small portions.

ACQUIRE SOCIAL GRACES

Not only do our students enjoy the monthly party, but we accomplish another thing that is even more important. We expose our students to the need to know and use proper social graces at the table. University trained people tend to become leaders in our society and we fail in our training if we do not help students to develop socially as well as intellectually. To help them to recognize the need for acquiring social graces students are encouraged to invite guests. This may include members of the top administrative staff and favorite faculty people as well.

This guest system serves a twofold purpose: Students have an opportunity to entertain but we in food service have an opportunity to show our "wares." The sympathy and support of faculty and staff do much to help create good will and satisfaction among the students.

Invited guests, residence hall personnel, and the dietary staff all agree that parties can be fun! Ask our students who enjoy them each month.

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NEWS

House Votes to Extend G.I. Benefits . . . Maryland Stirred by Loss of Accreditation . . . Students Vote on Construction Bids . . . Large Grants From Ford, G.E. and CBS . . . Tuition Fees Raised . . . Two Moravian Schools Merge

New Bill Would Restore G.I. Benefits

WASHINGTON, D.C.—A bill has been introduced in the House of Representatives to provide that "persons serving in the armed forces on Jan. 31, 1955, may continue to accrue educational benefits under the Veterans' Readjustment Assistance Act of 1952." The bill was introduced by the new chairman of the House committee on veterans' affairs, Rep. Olin E. Teague (D-Tex.).

President Eisenhower's proclamation of January 1 fixed Jan. 31, 1955, as the terminal date for various veterans' wartime benefits. Under the provisions of Congressman Teague's bill it would permit a man who entered the armed forces late in 1954 to earn the maximum entitlement of 36 months of educational benefits at the end of his two years' service in the army.

The House voted 366 to 0 on January 27 to extend the educational benefits of the G.I. bill of Public Law 550 to Jan. 31, 1965.

Act to Restore Academic Standing of Maryland U.

ANNAPOLIS, MD.—The loss of accreditation for the University of Maryland has caused drastic changes in administrative procedures. Accreditation was withdrawn from the university last year on the basis of an evaluation report ruling from a survey made in 1953 by a team of evaluators representing the Middle States Association of Colleges and Secondary Schools.

The evaluation report, criticizing the university sharply in five different fields, was submitted to the university's board of regents in May, but was considered too controversial for

general publication. Its release was virtually forced by the legislature when it convened in January.

Before release of the report, Dr. H. C. Byrd resigned as president of the university after almost 20 years. The regents chose Dr. Wilson H. Elkins, formerly president of Texas Western College at El Paso, as his successor.

The evaluation report criticizes the centralization of authority and responsibility in Dr. Byrd, stating that this centralization had reached the point where it was harmful to academic freedom. The report also deplored the status of the university medical school in both its curriculum and library facilities. The survey report also criticized university officials for encouraging an overemphasis of athletics at the university.

Dr. Elkins, the new president, has requested the state legislature to vote the required funds in order to obtain accreditation by 1956 if recommended improvements can be made by that time.

Gov. Theodore R. McKeldin is said to have put such funds in his budget, and legislators have indicated a readiness to meet any reasonable requests.

Ford Grants Go to Four Law Schools

NEW YORK.—The Ford Foundation recently announced the awarding of grants amounting to \$4,650,000 to four law schools. Those institutions designated were: Harvard, \$2,050,000; Columbia, \$1,500,000; Stanford, \$600,000, and the University of Michigan, \$500,000.

The purpose of the grants is to assist the law schools in developing lawyers with greater understanding of international affairs.

Princeton, Trinity and Penn. Raise Tuition

PRINCETON, N.J.—The board of trustees at Princeton University recently announced a \$150 increase in undergraduate tuition. The change, which becomes operative with the academic year 1955-56, will coincide with a slight increase of room rentals. Including student fees of \$100, the tuition will stand at \$1000, almost double the 1940 figure of \$510.

About the same time, Dr. Albert C. Jacobs, president of Trinity College, Hartford, Conn., announced a \$50 increase in tuition as did officials of the University of Pennsylvania. The amount of the increases at Pennsylvania was not disclosed.

Fears Disintegration for Liberal Education

WASHINGTON, D.C.—According to Rev. Theodore M. Hesburgh, president of the University of Notre Dame, liberal education today is in danger of disintegrating into "a tossed salad."

"Lacking the unity provided in the past by philosophy and theology, modern liberal education is a melange of disaggregate parts, concocted by piling course on diverse course, without internal unity of the subject matter itself," Father Hesburgh said. His remarks were made on the occasion of the forty-first annual meeting of the Association of American Colleges at the Hotel Statler in this city.

At the annual dinner of the association, Sir Roger Makins, British Ambassador to the United States, impressed upon the educators and attendants the importance and success of scholarly international cooperation and exchanges. President Eisenhower, in his address before the meeting, emphasized the important place that

"classroom-tested" for today's thinker!

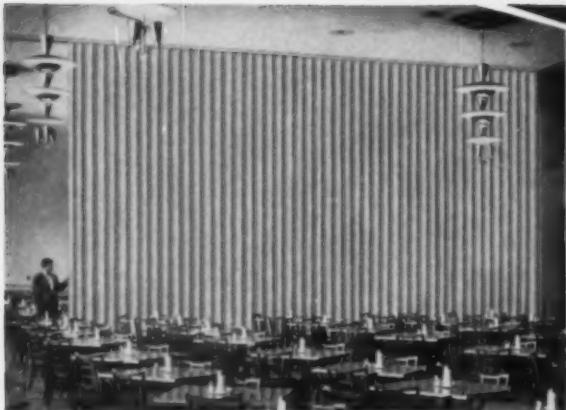


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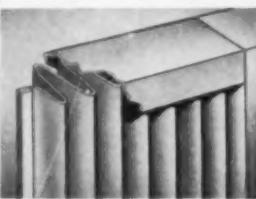
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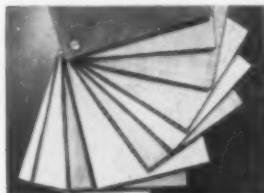
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NEWS

colleges must play in planning the American future and the proper inclusion of a religious philosophy in conducting our educational enterprise. Mrs. Peter Marshall, widow of the famed Senate chaplain, addressed delegates on the importance of revitalizing the religious content of the academic curriculum.

At the conclusion of the meeting the association elected these officers: president, Joseph R. N. Maxwell of Boston College; vice president, Arthur J. Coons of Occidental College, Los Angeles; treasurer, J. Ollie Edmunds of Stetson University, De Land, Fla. Dr. Theodore A. Distler was reappointed executive director.

G.E.'s Grants to Exceed \$1 Million During 1955-56

SCHENECTADY, N.Y. — Officials of the General Electric Company stated recently that the company will give "substantially more" than \$1 million to educational institutions in the 1955-56 academic year. The purpose of the grants is to help alleviate the "critical shortage of professional manpower throughout the nation."

Last year the company gave \$800,000 to colleges and universities through its educational and charitable fund. According to Kenneth G. Patrick, manager of the department of educational relations services, most of the new awards will be in the fields of physical science, engineering and industrial management, although some will be offered in the arts, law and business.

Purdue Gymnasium to Be Uniquely Financed

LAFAYETTE, IND.—Purdue University officials recently announced the awarding of a contract for a \$2 million recreational gymnasium to be used by both men and women students.

The building will have both indoor and outdoor swimming pools, four intramural basketball courts, and space for a variety of indoor sports and recreational activities. The financing of the gymnasium may be unique on an American campus. It will be financed by a bond issue that will be repaid from student recreation fees. No tax money is involved, although Purdue is a state university.



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NEWS

Massachusetts Campus to Have Master Plan

AMHERST, MASS. — J. Paul Mather, president of the University of Massachusetts, recently announced the engagement of a firm of Boston architects to evolve a master plan for campus development in the years ahead.

The master plan is to provide for an enrollment increase to approximately 10,000 students by 1965. The master plan will show the location of new residence halls, classroom buildings, an auditorium and other academic buildings, and will also indicate the necessary athletic fields, parking areas, vehicular and pedestrian lines of circulation. In addition, the master plan will encompass expansion of all utilities, such as the heating plant, water and electric supplies, and the sewage disposal system.

Up Fees to Finance New Activities Building

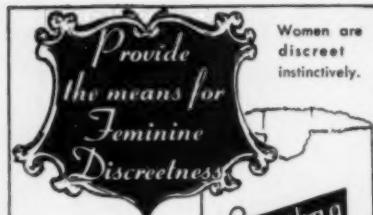
ANN ARBOR, MICH. — Authorization has been granted by the board of regents for construction of a student activities building at the University of Michigan at a cost of \$1,700,000. In addition to offices, workshop areas, and meeting rooms for student organizations, the structure will include office space for the dean of men and the dean of women, who have offices at present in the administration building.

The building will be financed by an increase of student fees. The amount of the increase has not yet been determined.

CBS Gives Grants to Officials' Colleges

NEW YORK. — Officials of the CBS Foundation, Inc., announced recently that 16 grants on behalf of the executives of the Columbia Broadcasting System, Inc., had been made to 14 privately supported colleges and universities of which the executives are graduates.

The grants are for \$2000 each and are unrestricted as to use. The grants are based on the approximate extra cost of education the institution bore from endowment or other funds "over and above the tuition and other fixed charges the individual was asked to pay at the time he was a student,"



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fine with oysters
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NEWS

according to Dr. Frank Stanton, president of the Columbia Broadcasting System.

Dr. Stanton said that the individuals named as sponsors of the 1954 grants were selected on objective standards that do not involve any appraisal or evaluation. The formula used was not made public but it includes minimum service of 30 months on a continuous basis and promotion to or beyond a specified level of responsibility. Graduation from an

accredited privately endowed educational institution also is a requirement.

The institutions recognized in the grants are: Brown University, Columbia College, Cornell University, Dartmouth College, Denison University, Duke University, College of the Holy Cross, University of Kansas City, Knox College, New York University, Ohio Wesleyan University, University of Pennsylvania, Princeton University, and Wesleyan University.



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Free Consultations in Nursing Education

NEW YORK. — Consultation visits will be made by Dr. Margaret Bridgeman to colleges and universities that are establishing or revising programs in nursing education, it was announced last month. Formerly dean of Skidmore College, Dr. Bridgeman is the author of "Collegiate Education for Nursing," published in 1953 by the Russell Sage Foundation.

Dr. Bridgeman's visits are to be made upon request and without charge to the institutions. This service is a part of the new three-year grant to the National League for Nursing from the Rockefeller Foundation. During the last three years funds from the Kellogg Foundation have made possible Dr. Bridgeman's services.

Ask \$13½ Million for Residence Halls

ALBANY, N.Y. — State University trustees have requested the legislature to approve a \$13,350,000 residence hall program for 14 of the campuses of the university.

For 1955 the trustees suggested that \$350,000 be approved immediately in order to finance planning for the new residence halls. The building program would take place on the campuses of the Agricultural and Technical Institutes at Alfred and Farmingdale, Harpur College at Johnson City, and all 11 of the state teachers colleges.

The cost of the individual projects would range from \$233,400 to \$450,000, the latter at Cortland State Teachers College.

Students Take Part in Construction Bids

TEANECK, N.J. — Students at Fairleigh Dickinson College recently were given the privilege of opening and voting on bids for the construction of a new \$325,000 residence hall. Five hundred of the college's students took part in or watched the procedure under the supervision of Robert Green, representing the Federal Housing and Home Finance Agency, President Peter Sammartino, and a representative of Fellheimer and Wagner, New York architectural firm.

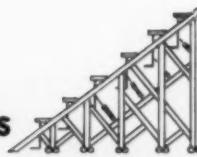
The students even got an insight into what may happen when a bidder misses a deadline. Two prospective

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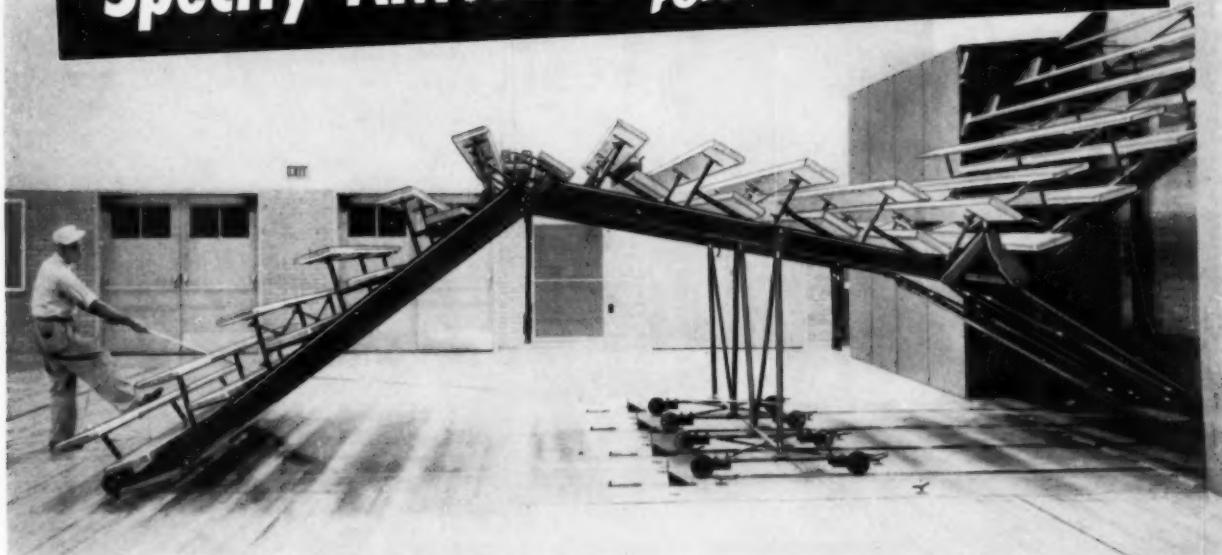


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NEWS

builders arrived a few minutes after the announced limit for submission of bids.

Mr. Green called his superior in Philadelphia and obtained a ruling—the bids could be considered. Other concerns, having been punctual, warned they might contest the award if it went to one of the latecomers. This crisis passed, apparently, when neither proved to be low bid.

The bids, covering actual construction, ranged from \$264,234 to \$334,

848. The lower prices offered were received with pleased murmurs, the others with groans. Each bid was chalked up on a blackboard and the vote went to the lowest.

No actual award of the construction contract will be made, however, until after a review of all bids by the federal agency, source of the building loan. The new residence hall is to house 80 girl students. Its cost will be amortized over 40 years out of annual income estimated at \$29,000.

Dr. Walters' 1954 Survey Shows Enrollment Increases

CINCINNATI.—For the second consecutive year, last fall's registrations on American campuses set an upward trend, Dr. Raymond Walters, University of Cincinnati president, reported in his 35th annual college-university enrollment survey for *School and Society*, educational journal.

Covering 846 approved universities and four-year colleges (94.5 per cent of all such accredited institutions in the U.S. and territories), the 1954 study shows increases over the previous fall of 6.8 per cent in full-time students; 9.7 per cent in part-time students, and 7.6 per cent in grand totals.

The reporting institutions have 1,383,750 full-time and 1,895,280 grand-total students. For the second consecutive year there is an upward trend in contrast with the preceding five years of descending enrollments following the exodus of World War II veteran students.

"While recent freshman classes are drawn from the diminished human reservoir of the 1930's, when birth rates were low, the proportion is rising of high school graduates going on to college," Dr. Walters, long known as statistician laureate of higher education, points out.

The 1954 freshmen in five broad study fields—education, engineering, commerce, liberal arts, and agriculture—exceed by about 9.2 per cent similar freshmen of 1953. Largest gains last fall were made in education and engineering freshmen.

This condition reflects "pressing needs of the nation," the Cincinnati president notes. "Because of the demand for teachers to take care of the booming number of children in primary and secondary schools, there was a large increase—19.4 per cent—of freshmen last fall over the previous one in teachers colleges, both independent and university colleges," Dr. Walters says. There are 27 per cent more freshman men in education and 14.3 per cent more freshman women, the survey shows.

The 9 per cent more engineering freshmen are second in rate of gain. Widespread notice that American industry last June needed about 38,000 recruits at high starting salaries but only 22,000 were graduated them from engineering schools has stimulated ap-

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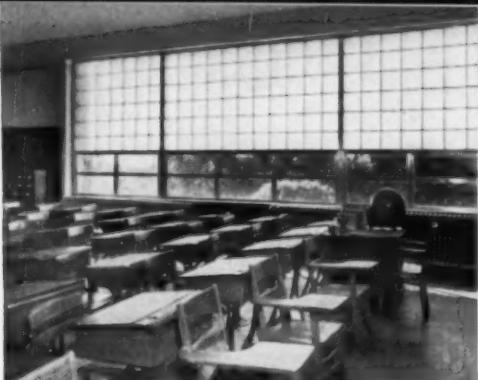
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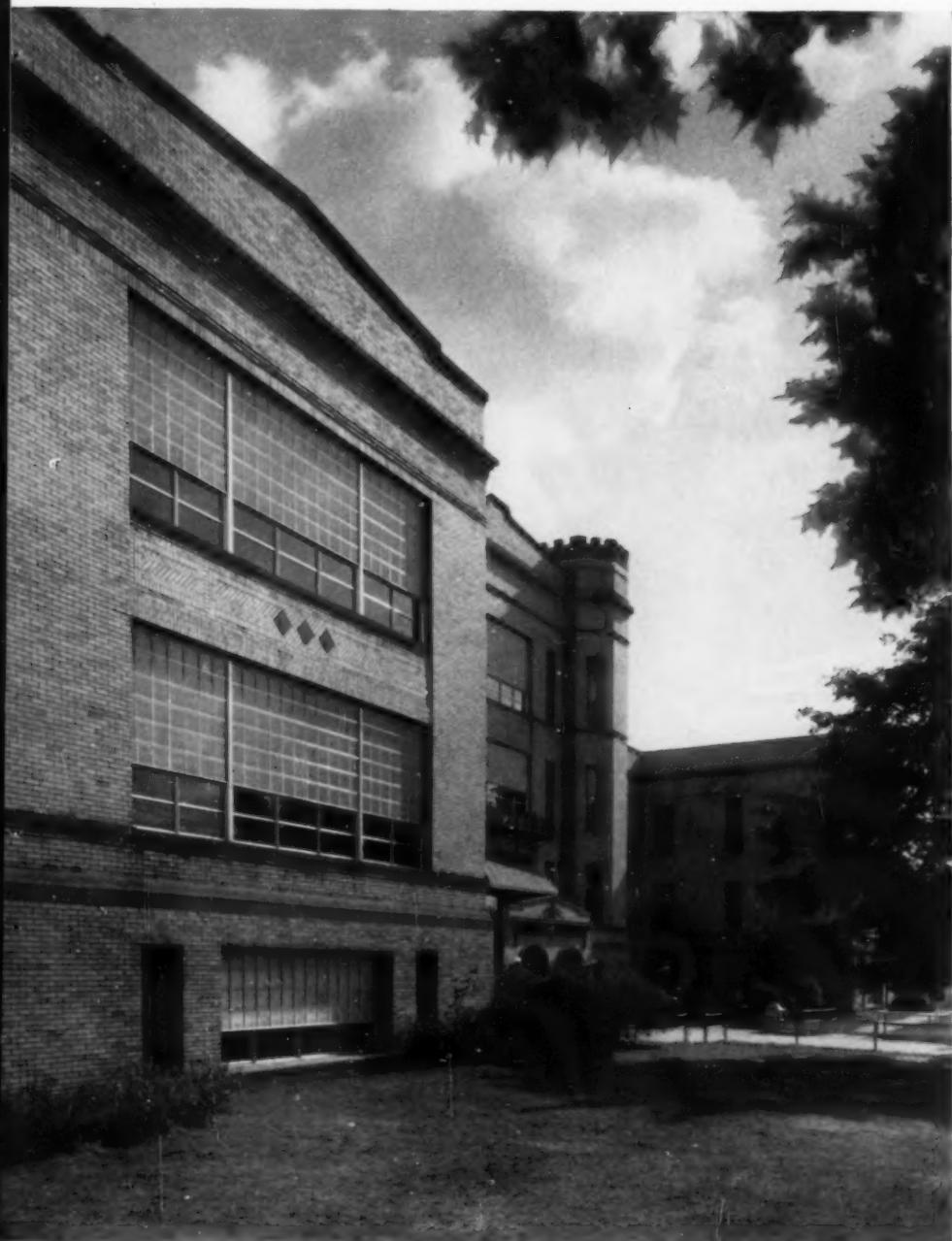


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The New Kensington High School, New Kensington, Pa., is typical of many school buildings faced with worn-out window sash. Continual, expensive maintenance of the old sash did not provide proper protection from wintry blasts.

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NEWS

plications for admission to these schools, Dr. Walters believes.

Next in order are commerce or business administration freshmen, up 7.4 per cent; liberal arts freshmen, up 7 per cent; agriculture freshmen, up 6.1 per cent.

In full-time attendance, 64 public universities have gained 7.3 per cent; 54 private universities, 1.9 per cent; 511 independent arts and sciences colleges, 7.5 per cent; 49 independent technological institutions, 6.7 per cent,

and 123 independent teachers colleges, 15.1 per cent.

Except for Vermont, where the decrease in five institutions is only 72 students, all states show advances in full-time enrollments.

In all institutions, there are 7.6 per cent more men taking full-time courses and 5.3 per cent more women.

In his 1953 report, Dr. Walters indicated a 1.1 per cent decrease in part-time students from the 1952 figure. But last fall that trend reversed

sharply, with 9.7 per cent more part-time students than in 1953.

Dr. Walters quotes Sam H. Coile, Veterans Administration assistant deputy administrator, as reporting 224,902 veterans in colleges and universities under Public Law 550 and 6238 under disability provisions of Public Law 894.

In full-time totals, the 25 largest institutions reporting to Dr. Walters are: California, 35,273; New York State University, 22,849; Minnesota, 20,399; University of Michigan, 18,750; Ohio State, 18,084; Wisconsin, 14,952; New York University, 13,955; Michigan State College, 13,780; Pennsylvania State University, 13,110; Indiana, 12,497; Columbia, 11,999; Washington (Seattle), 11,352; Purdue, 10,504; Cornell, 10,383; Harvard, 10,364; Syracuse, 10,279; New York City College, 9918; University of Florida, 9854; Maryland, 9754; Boston, 9010; Colorado, 8908; University of Pennsylvania, 8881; Oklahoma, 8877; University of Missouri, 8824; University of Puerto Rico, 8540. (The University of Illinois and the University of Texas did not report full-time figures.)

In grand totals, the 25 largest are: (1) New York University, 39,401; (2) New York State University, 30,578; (3) New York City College, 29,898; (4) Minnesota, 27,897; (5) Columbia, 24,971; (6) Illinois, 23,462; (7) Brooklyn College, 23,295; (8) University of Michigan, 22,000; (9) Boston, 21,205; (10) Ohio State, 20,352; (11) Indiana, 18,441; (12) Northwestern, 17,983; (13) Wisconsin, 17,896; (14) Southern California, 17,459; (15) Wayne, 17,296; (16) Michigan State College, 16,234; (17) Pittsburgh, 15,943; (18) Texas, 15,928; (19) Pennsylvania State University, 15,458; (20) Maryland, 14,884; (21) Washington (Seattle), 13,675; (22) University of Puerto Rico, 13,232; (23) Cincinnati, 13,126; (24) Rutgers, 12,990; (25) Syracuse, 12,930. (California and Harvard did not report their grand totals.)

When Dr. Walters took on the annual survey in 1920, he was registrar of Lehigh University, Bethlehem, Pa., and secretary of the American Association of Collegiate Registrars.

The study has continued each year without a break. He went to Cincinnati as president in 1932 from Swarthmore College, where he had been dean.

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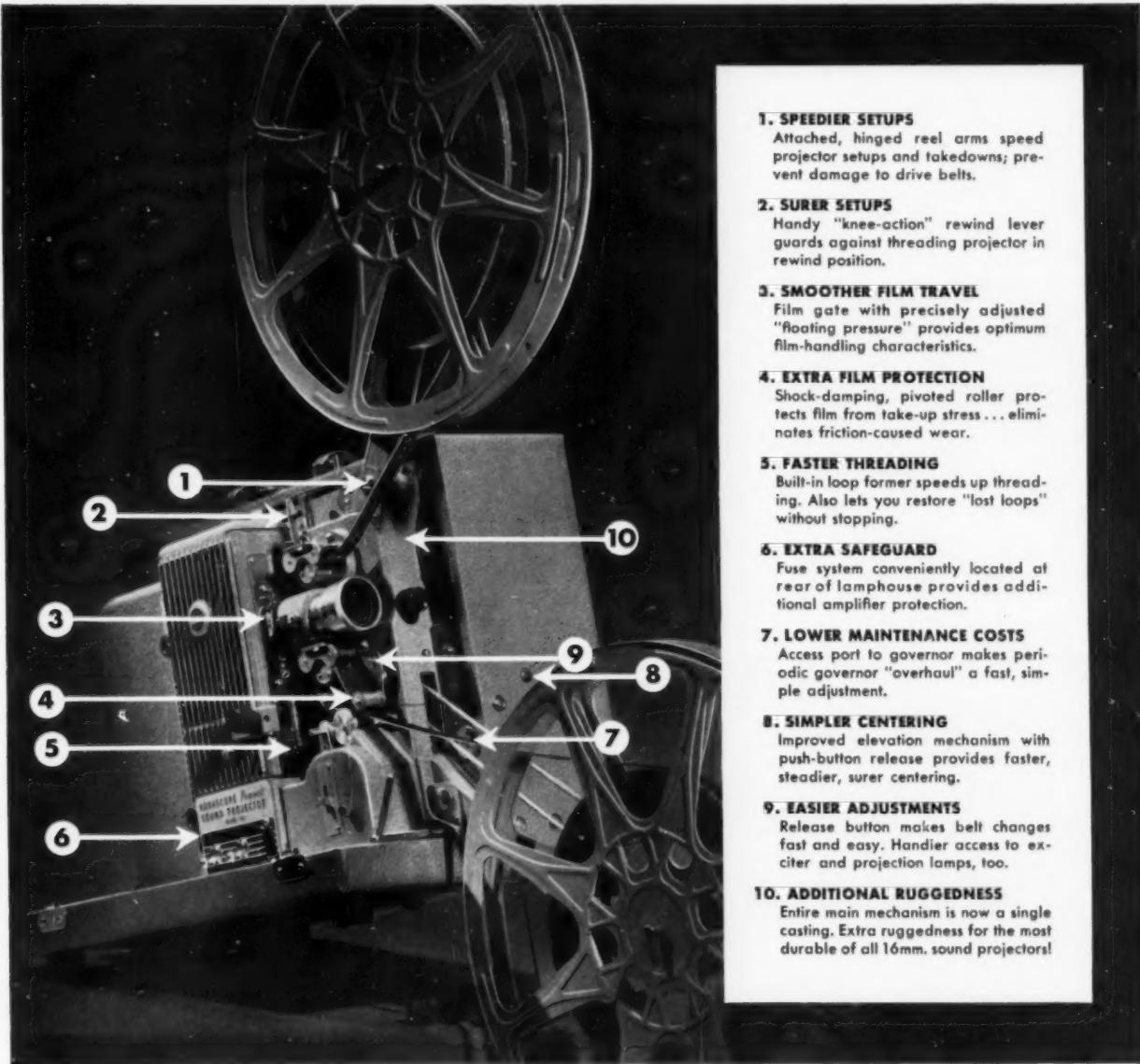
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NEWS

1544 Foreign Students Attending Columbia

NEW YORK.—More than 1500 foreign students are enrolled in the current winter session at Columbia University, according to a recent announcement by university officials.

It was believed that the figure represents the highest foreign student enrollment of any college or university in the country. The Columbia students come from 73 foreign nations.

Of the 1544 students from abroad who are registered at the university, the largest delegation comes from China—134 students. Most of these scholars are now cut off from their homeland. Next in size is the group from Israel with 79 students. Making up the remainder of the first 10 largest representations are Canada, 77 students; Japan, 70; India, 69; Greece, 68; West Germany, 49; Philippines, 48; Iran, 37, and France, 35. The numbers are contained in a directory

issued by the Office of the Foreign Student Adviser at Columbia. The directory also lists the names of the foreign students.

Numerous distant lands are represented among the visiting scholars. Included are Afghanistan, Ceylon, Cyprus, the Gold Coast, Iceland, Malaya, Nigeria, Sierra Leone, Saudi Arabia, and Viet Nam.

Penn State Students Will Study by Television

STATE COLLEGE, PA.—Students at the Pennsylvania State University will study certain courses in chemistry and psychology by closed-circuit television during the spring semester. The plan is a part of a project to determine the feasibility of using closed-circuit television for college instruction, a project supported by a \$43,845 research grant from the Fund for the Advancement of Education.

Several sections of these general courses in psychology and chemistry, which have very large enrollments, will be utilized in the experiment, explained Dr. C. R. Carpenter and Dr. W. C. Fernelius, heads of the departments of psychology and chemistry, respectively.

One section will attend the class in the room from which the instruction is televised. Two or three other sections will attend classes in rooms to which the instruction is televised over the closed-circuit. Comparable sections will be taught without the use of television.

During the semester, the effectiveness of teaching under each of these three situations will be observed and evaluated.

In addition to providing a possible solution to an anticipated shortage of instructors and classroom and laboratory facilities that will come when the bulge in the public schools reaches the campuses, teaching by television may have other advantages. It may enable a team of instructors, each a specialist in one field, to conduct a basic course for large numbers of students. It may enable hundreds of students to see every detail of an experiment or demonstration that only students in the front row of a classroom can see at the present time.

The experiment is designed to determine whether or not teaching by television will be acceptable to the

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NEWS

student and to the instructor and to determine costs of the system.

Simple and moderately priced equipment will be used as contrasted to the expensive equipment used in a commercial studio. Permanent lighting, two cameras, and equipment for projecting films are planned.

While studies on the use of television have been made on other campuses and in some military installations, it is believed that this will be the first study with the use of moderate cost equipment and with all class sessions for an entire semester of a course, rather than selected sessions, or brief periods of a class, taught by television.

Two Schools Merge; Now Moravian College

BETHLEHEM, PA.—The Moravian College and Theological Seminary and the Moravian Seminary and College for Women, Bethlehem, Pa., have been incorporated as Moravian College. Announcement of the completed legal merger of the schools was made last month.

Combined under the new corporate title are the women's college originating from the oldest boarding school for girls in the 13 colonies, founded in 1742, and the men's college and seminary, which was the 29th chartered in the United States.

The new coeducational institution, headed by Dr. Raymond S. Haupert, will maintain and operate a liberal arts college and a graduate professional school of theology for both men and women, as well as a secondary school for girls under a subsidiary board of directors.

The corporation will therefore include Moravian College, accredited by the Middle States Association; Moravian Theological Seminary, accredited by the American Association of Theological Schools, and Moravian Seminary for Girls at Green Pond, accredited by the Middle States Association.

Finds Criticism of Education Exaggerated

NORTHAMPTON, MASS.—In his annual report to the board of trustees, Dr. Benjamin F. Wright, president of Smith College, stated that much criticism of modern education is "greatly exaggerated." He added that charges



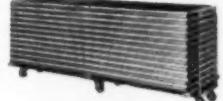
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NEWS

of radicalism or subversion were, "with extremely rare exceptions, out of date."

Charging critics of modern education with falsely professing to be conservatives, he said that they failed to recall that the American heritage was "a heritage and a tradition of change, of expansion, of development." He added that constitutional procedures and the competitive atmosphere of the country were brought out by a government that "does not dictate uniformity or limit enterprise."

"The college of today must educate the citizen of tomorrow and must do so for a world in which problems and issues are constantly in flux," he continued.

Dr. Wright declared, however, that the basis of the tradition was an unchanging factor because its emphasis was "upon the importance of the individual human being."

Two Optometry Colleges Consider Consolidation

CHICAGO.—The boards of trustees of Northern Illinois College of Optometry and Chicago College of Optometry are presently holding meetings to consider the consolidation of the two colleges.

Members of both boards of trustees have agreed that such a consolidation would be in the best interests of the colleges as well as of the future of optometry.

At present the advisers of the colleges are investigating the legal and technical feasibility of the proposed consolidation. In the event all difficulties of this nature can be resolved, the boards of trustees are hopeful that a consolidation may take place in the near future. Upon the completion of the legal investigation, the boards of trustees will make a joint announcement.

Terminate Contract

ALBANY, N.Y.—Attorneys for Syracuse University gave the State University of New York a check for \$87,842.21 on January 27 and agreed to ask court permission to pay an additional \$250,000 or more in income from endowment funds. The payment is in accordance with terms of a 1950 contract that transferred Syracuse University's college of medicine to the State University.

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NAMES

NAMES IN THE NEWS



Chester E. Tucker

Chester E. Tucker, president of John Price Jones Company, New York City, has been named vice president of the University of Pennsylvania for development and public relations. Mr. Tucker began his new work at the university on January 3 after relinquishing his position with the Jones Company, with which he had been associated since 1919.

William Thomas Hamilton, formerly a sales executive with the Columbia Broadcasting System, has been named sales manager of the University of Notre Dame's new television station, WNDU-TV. The announcement was made by **Bernard C. Barth**, vice president and general manager of Notre Dame Radio and Television. Mr. Hamilton assumed his new duties February 1.

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James L. Zwingle

James L. Zwingle, president of Park College, Parkville, Mo., will become vice president of Cornell University, Ithaca, N.Y., on July 1. Dr. Zwingle will be concerned with the long-range development programs of Cornell University and will succeed **Willard I. Emerson**, who resigned the position last year for reasons of health. Dr. Zwingle, a former national director of the U.S.O., has been president of Park College since 1947.



James L. Zwingle

Delphis Clairoux recently was appointed internal auditor of the University of Montreal in Canada. Mr. Clairoux received his master of commerce degree from the same university in 1937.

Dr. Joseph Clark Robert, president of Coker College, Hartsville, S.C., has been elected president of Hampden-Sydney College, Hampden-Sydney, Va.

Dr. Daryl Chase, director of the College of Southern Utah at Cedar City, was named president of Utah State Agricultural College, Logan, to succeed **Aldons Dixon**, who was elected to the United States Congress.

Paul S. Bachman, vice president, will succeed to the presidency of the University of Hawaii when **Gregg M. Sinclair** retires on June 30.

The Rev. Reinhold Niebuhr, dean of the faculty of Union Theological Seminary, New York City, has been appointed vice president.

Merl F. Holderman resigned the position of business manager of Bethel College, Mishawaka, Ind., on January 1 to take a management position with a frozen foods distributor. His successor at the college has not been named.

Mrs. Dwight W. Morrow, acting president of Smith College in 1939-40, died January 23. Mrs. Morrow was the first woman to head Smith College since its founding in 1875.

Dr. Leonard Theodore Baker, president of the University of South Carolina from 1931 to 1936, died January 5 at the age of 87.

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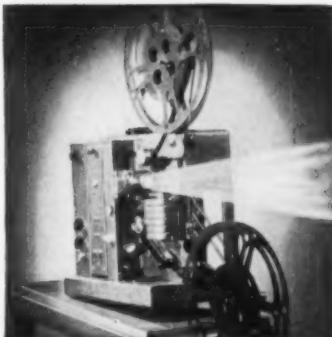


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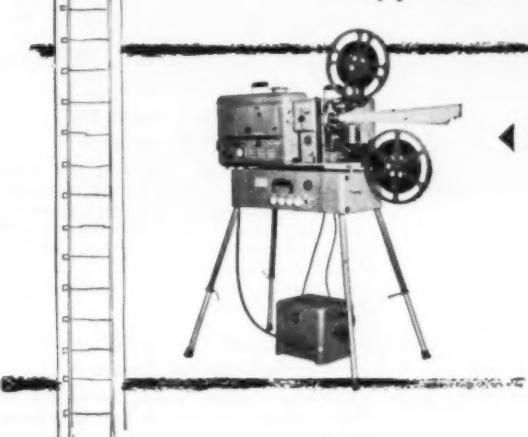
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National Association of College and University Housing Officers

President: M. R. Shaw, Cornell University; vice president: F. C. McConnell, University

of Texas; secretary-treasurer: Ruth N. Donnelly, University of California, Berkeley.

National Federation of College and University Business Officers Associations

President: Irwin K. French, Wellesley College; vice president: Laurence Lunden, University of Minnesota; secretary-treasurer: Nelson A. Wahlstrom, University of Washington.

Convention: June 26-28, Stanley Hotel, Estes Park, Colo.

Association of College and University Business Officers

American Association

President: W. C. Ervin, Paine College; secretary: B. A. Little, Southern University.

Central Association

President: C. C. DeLong, University of Illinois; secretary-treasurer: T. N. McClure, Knox College.

Eastern Association

President: W. R. Hendershot, New York University; secretary-treasurer: Irwin K. French, Wellesley College.

Southern Association

President: C. O. Emmerich, Emory University; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Convention: March 31-April 2, Roosevelt Hotel, New Orleans.

Western Association

President: James Miller, University of California; secretary: Morris Robertson, Oregon State College.

Convention: April 10-12, El Conquistadore Hotel, Tucson, Ariz.

Canadian Association of University Business Officers

President, A. G. Rankin, University of Toronto; secretary-treasurer, E. A. Wilkinson, Hart House, University of Toronto.

Convention: June 16-18, Ottawa, Ont.

Association of College Unions

President: William Rion, University of Florida; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Convention: April 3-6, Greenbrier, White Sulphur Springs, W. Va.

College and University Personnel Association

President: L. H. Glander, Michigan State College; secretary-treasurer: M. S. Hendrickson Jr., University of Colorado; executive secretary: Donald E. Dickason, University of Illinois. Permanent headquarters, 809 S. Wright St., Champaign, Ill.

Convention: July 17-20, State University of Iowa, Iowa City.

National Association of Educational Buyers

President: Henry Doten, University of Maine; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

Convention: May 2-4, Biltmore Hotel, New York City.

American College Public Relations Association

President: Francis C. Pray, University of Pittsburgh; executive secretary: Marvin W. Topping, 726 Jackson Place, N.W., Washington 6, D.C.

Convention: June 30-July 2, Drake Hotel, Chicago.

National Association of College Stores

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Assistant Treasurer-Chief Accountant—Man with sound accounting training and administrative ability wanted. Write details including references to C. E. Puffer, Treasurer, UNIVERSITY OF BUFFALO, Buffalo 14, New York.

Business Officer—Position leading to duties of comptroller open to young man experienced in accounting, budgets, etc., preferably in college or university. Write Treasurer's Office, WILLIAMS COLLEGE, Williamstown, Massachusetts.

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for smooth, trouble-free performance, insist on a

Von Duprin COMPLETE EXIT



NL 46 A² Devices. Inside operation at all times—outside key retracts latch bolt. Completely drop-forged.



1254 "Frame Pattern" Mullion. Extruded aluminum body easily removed for full opening. Drilled and tapped for strikes.



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12390 "Latch Track" Threshold. Provides full opening door stop. Stumble-proof. Wind and water stop is full $\frac{1}{4}$ " thick.



● Whatever your exit needs, the Von Duprin line includes all types of devices and auxiliary items for a complete exit installation which is dependable, attractive—and above all, **safe**. Each Von Duprin exit hardware item is styled and engineered for unfailing, harmonious operation.

● Whenever you plan exit installations, insist on Von Duprin for the complete job. A Von Duprin "Exit Specialist"—either a factory representative or a selected builders' hardware distributor—will be happy to help you plan the most practical installation. For his name, write direct to:

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"THE SAFE WAY OUT!"

WHAT'S NEW

February 1955

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 84. Circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Arithmetic Teaching Method Accelerates Pupil Achievement



A modern version of the ancient abacus is combined with the use of the adding machine to teach the fundamentals of arithmetic. The Numberaid is an abacus made for our decimal system. It is colorful, of a size to be easily handled by young children, and can be had in several sizes.

The Numberaid was developed by Dr. Andrew F. Schott, Marquette University, Milwaukee, Wisconsin, for use in his teacher training classes on a method of teaching arithmetic in the grammar school. The abacus is used in the second and third grades, and the Burroughs Instructor adding machine in grades four through nine. A detailed instruction manual describes the system which increases the effectiveness and efficiency of the teacher and, according to tests made, triples gains in achievement by pupils. Tests indicate that use of the new method also accelerates achievement in the reasoning phases of arithmetic and does not lessen the pupils ability to work problems with pencil and paper only. A booklet has been prepared describing the system and the results of its use. **Burroughs Corporation, Detroit 32, Mich.**

For more details circle #267 on mailing card.

Cleaning Action Handles Daily Maintenance

Hand cleaning, mopping or machine scrubbing result in clean, unharmed surfaces when done with Plyokem Cleaner. It is a neutral liquid with powerful cleaning action which does not depend upon an abrasive operation or on an excessive amount of scrubbing. The chemical action loosens and washes away dirt without harm to any surface that would not be harmed by water. Plyokem rinses freely and does not build up film on cleaned surfaces. **The Diversey Corporation, 1820 Roscoe St., Chicago 13.**

For more details circle #268 on mailing card.

Three-Dimensional Lighting for Corridors

A new approach to corridor lighting is offered in the new No. C-824 Holophane Corridor Lighting Luminaire. A three-dimensional control redirects light in all directions, to provide the same high level, comfortable, safe illumination conditions in corridor traffic areas as is offered in classrooms and other areas. Balanced illumination with high visibility is supplied by taking full advantage of the directed reflections. A prismatic glass refractor bowl with engineered design provides the three-dimensional control. **Holophane Company, Inc., 342 Madison Ave., New York 17.**

For more details circle #269 on mailing card.

Movable Walls Are Incombustible



Johns-Manville Class A Movable Walls make it possible to re-arrange interiors according to need with minimum disturbance.

They are incombustible, being made with an all mineral core with sturdy asbestos cement surfaces and steel trim. They are finished in a tough, hard, durable film which is mar and scratch resistant and rejects stain and soil. When necessary it can be easily washed and scrubbed and, if damaged, can be touched up inexpensively.

The walls are available in restful colors or in natural finish for decoration after installation. They are erected complete with doors, door hardware, glass and trim and are available in ceiling or free standing heights. They make attractive, finished walls which are movable when changes are desired. **Johns-Manville, 22 E. 40th St., New York 16.**

For more details circle #270 on mailing card.

(Continued on page 74)

Duo-Tex Paint Is Fire-Resistant

A maximum degree of fire and flame protection to interior walls, ceilings and trim surfaces is offered with the new Warco Duo-Tex paint. The intumescent paint will swell, char and bubble, producing a protective charred ash to guard the surface from the flame.

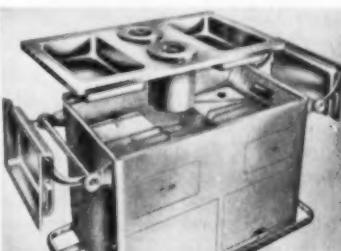
Warco Duo-Tex may be brushed or sprayed on, dries to a flat finish and is washable. It resists mildew and fungus growth and maintains its fire-retardant quality with age. It is available in twelve basic pastel shades and may be recoated with any kind of interior paint without losing its protective quality. The coating carries the Underwriters' Laboratory seal, according to the manufacturer, and meets the fire-resistant demands of Federal Government Specification SSA-118A. **The Warren Refining & Chemical Co., 5151 Denison Ave., Cleveland 2, Ohio.**

For more details circle #271 on mailing card.

High-Flow Heating in Blickman Food Conveyors

Radiant energy strip heaters under the top deck are employed as the heating principle in the new Blickman-Built Food Conveyors. Heat radiates quickly through the side walls and the bottoms of all food wells with the new arrangement which more than doubles the heat transfer area. Food Conveyors heat quickly and time and labor are saved. Cold spots are eliminated and food is kept at temperatures for proper serving. In case of need the heaters can be replaced in minutes without the use of special tools.

Blickman-Built Food Conveyors are of stainless steel seamless one-piece construc-



tion for rapid and thorough cleaning and maximum protection of heaters and insulation during hosing, steaming and washing. **S. Blickman, Inc., Weehawken, N.J.**

For more details circle #272 on mailing card.

What's New . . .

Comfort, Color and Durability in Samsonite Furniture Line

Russel Wright, industrial designer, has created the pattern of the new Samsonite line of school furniture for all class-



room needs. Flexibility, strength, lightness and beauty are combined in the new line which employs color in the structural members and modern design in each piece. The use of color resulted from an exhaustive study made in classrooms. The four standard colors employed are pale cocoa brown, neutral gray, rust-red and blue-green.

The Open Front Book Box Desk and Chair are specifically designed for flexibility in the arrangement of the classroom. The light weight flexible steel frame has tapered legs with stainless steel glides pivoted on ball and socket joints to adjust to any unevenness in floors. The large diameter glides protect the floor and facilitate moving. The book box is made of steel finished in metallized gray baked enamel and the desk top is available in plastic laminated plywood, solid maple or birch, or maple plywood. The desk is made in ten sizes.

The chair has a large plywood seat with roll front for extra comfort. The molded plastic and Fiberglas back is supported on a long tubular frame which forms an integral part with the legs and provides resilience and spring. The design of the chair encourages correct posture. Desk and chair, with tubular steel frame in colors, are constructed to resist all destructive efforts of pupils. Chairs are available in nine sizes and will stack. Shwayder Brothers, 1050 S. Broadway, Denver 9, Colo.

For more details circle #273 on mailing card.

Locking Device Makes Safe Scaffolding

A new locking device developed for use in scaffolding is an integral part of the frame. It provides a built-in safety feature for joining and holding scaffold frames rigidly and firmly. The Tasco locking device and scaffold frame have been thoroughly tested and subjected to hard usage. The scaffold frame is made of steel or aluminum, depending upon use.

The locking device permits a section of the scaffold to be folded for storage or for carrying to a new location, elimi-

nating the need for disassembling for moving through doorways or narrow passageways. When built up, the scaffolding can be mounted on casters for easy movement. Basic frames are manufactured in sections of varying lengths for speedy erection. **The American Scaffolding Co., 1815 Woodland N. E., Warren, Ohio.**

For more details circle #274 on mailing card.

Three Cooking Compartments in Large Steam Unit

The Model 3ST-ASG Steam Pressure Cooker has three large cooking compartments, each designed to be used at full capacity of thirty pounds of food. Each compartment has individual controls with full automatic cooking cycle controlled by the clock. Each compartment is at proper working level for more efficient and comfortable operation. The same boiler in the base of the unit provides up to 15 pounds steam pressure to each compartment. The unit is streamlined in appearance with all valves, manifolds and piping concealed. It is 56



inches wide, 30 inches deep and 60 inches high and accommodates standard cafeteria pans in each compartment. **Market Forge Co., 25 Garvey St., Everett 49, Mass.**

For more details circle #275 on mailing card.

Floor Machine Is Portable

Designed for use in buildings lacking elevators, the new Premier Portable Floor Machine weighs only 36 pounds, complete with 12 inch brush. It is ruggedly constructed for hard use and scrubs, waxes, polishes and steel wool all types of floors. It is powered by a $\frac{1}{3}$ h.p. General Electric constant speed, heavy-duty motor and can be used for continuous operation in confined areas. Ball bearings are permanently sealed, requiring no lubrication. The durable aluminum base is finished with baked-on gray crinkle enamel and a non-marking resilient bumper protects walls. **Premier Company, 755 Woodlawn Ave., St. Paul 6, Minn.**

For more details circle #276 on mailing card.

(Continued on page 76)

Improved Tissue Has New Names

Nibroc toilet tissues have been materially improved in texture and quality and are now offered as Sofwhite No. 10 and Softan. Sofwhite No. 10 is a snowy white, single-ply toilet tissue with extra soft texture that is strong and absorbent. It is supplied in 1000 sheet rolls. Softan is the same extra-strong, soft, absorbent tissue but is offered in economical neutral beige color. It is supplied in 1000 and 1500 sheet rolls. **Brown Company, 150 Causeway St., Boston 14, Mass.**

For more details circle #277 on mailing card.

Lighting Fixture for On-Surface Mounting

The Omega-Plex fixture for on-surface mounting on existing ceilings is one in the series of Wakefield Geometrics. No structural changes are required and the unit may be used individually or combined in an unlimited variety of lighting designs. Ballasts and lampholders are in an individual metal housing that provides hook-on suspension points for the Wakefield Rigid-Arch Diffuser. The latter is molded with a sweeping arch for improved rigidity. The non-specular, matt finish minimizes possible reflected glare from outside the building. Omega-Plex is also available with louvers. **The F. W. Wakefield Brass Co., Vermilion, Ohio.**

For more details circle #278 on mailing card.

Fluorescent Fixture Lights Chalkboard

Designed for the supplementary lighting of vertical surfaces, the Chalkboarder is a new fluorescent fixture which is easily installed and quickly adapted to meet specific lighting requirements. It provides excellent vertical lighting of chalkboards, bulletin boards and similar areas. The reflector may be rotated for proper shielding and apertures in the top of the reflector permit a soft uplighting



to reduce the contrast between the unit and the lighted area below.

The Chalkboarder is finished in gray Neutra-tone with aluminum reflector. The inner reflecting surface is finished in White Supercoat Baked Enamel. **Smithcraft Lighting Division, Chelsea 50, Mass.**

For more details circle #279 on mailing card.



9481
styled for dignity

9480
companion side chair

engineered for public ease

comfort blends with beauty in these molded, rubber-filled Thonet chairs. Smartly upholstered, they are designed for heavy duty, engineered* for lasting durability.

*Thonet's famous bending and molding processes eliminate troublesome glue joints.



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SPECIALISTS SINCE 1830

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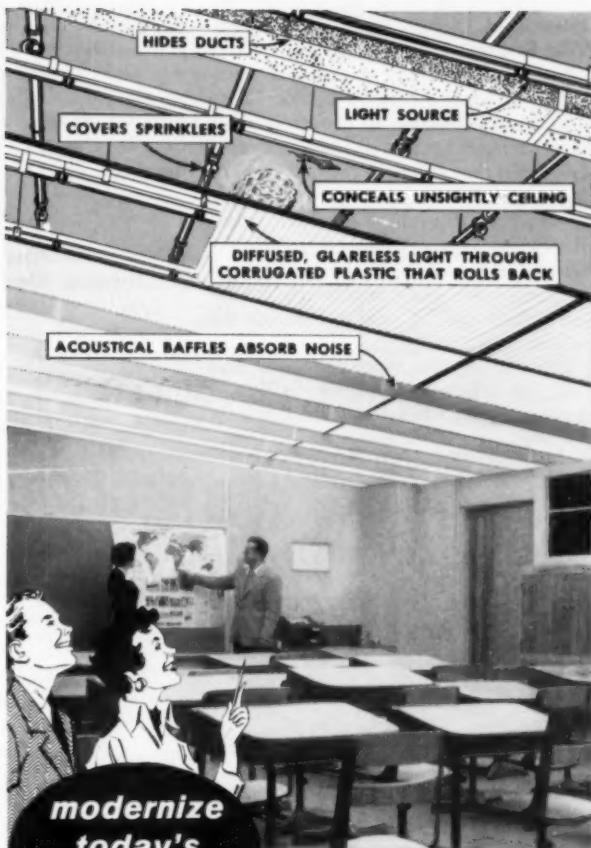
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9481 - armchair,
molded plywood seat
and back, upholstered
with 2" rubber filling,
seat 19" x 17"

See Thonet History Dramatized at the
De Young Museum, San Francisco
from January 21 • Through March 21



**modernize
today's
classrooms** with yesterday's budgets

Combine light, sound control and air flow
with an **Acusti-Luminous Ceiling**
...the newest trend in modernization!

This allover ceiling of glareless, shadowless light brings soft, even illumination everywhere in the classroom to protect against eyestrain and step up learning efficiency. It also provides important sound control and a ceiling-wide space for air conditioning and heating. These three essential elements for today's modern classrooms are combined at a cost that's lower than conventional illumination and sound control alone. ACUSTI-LUMINUS CEILINGS are made from unbreakable, corrugated LUMI-PLASTIC and labeled by Underwriters Laboratories for installation under sprinkler systems.

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See the low cost
modernization achieved
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Ceiling for yourself...
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booklet and location of
a school
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Please send me your free illustrated booklet and tell
me where I can see an ACUSTI-LUMINUS CEILING
Installation!

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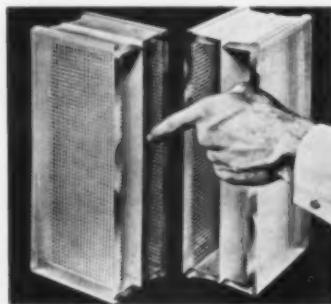
City & State _____

What's New . . .

Controlled Light With Suntral Glass Blocks

A soothing glow of daylight is transmitted through the new, double cavity glass blocks known as Suntral. Pale green fibrous glass diffusing screens sealed into the centers of the hollow glass blocks and the two partial vacuums keep out much of the sun's heat while transmitting non-glare light. The psychological effect of the light coming through the green filter is a cooler and more relaxed environment, regardless of the temperature.

The blocks, for exterior walls and roofs, are a new addition to the line of functional glass blocks which direct light



rays where needed. They provide controlled illumination through direction and diffusion. The cut section in the illustration shows the light controlling prisms

on the inner surfaces and the fibrous glass screen for reducing heat transmission and excessive brightness. Blocks are set to direct the light where needed, according to the elevation. Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh 22, Pa.

For more details circle #280 on mailing card.

Modern Patterns in Stainless Steel Flatware

Two new patterns are available in stainless steel flatware for institutional use. The new Accent pattern in Oneida-craft Stainless has satin smooth surface which keeps its attractive appearance without special polishing. The design is simple and modern. The attractive new pattern is strong and sturdy for long wear.

The second pattern, in Oneida Stainless, is the Fernwood. The attractive design should be pleasing to students, faculty and personnel and the solid stainless steel, polished to a hard finish, resists everyday usage. Oneida Ltd., Hotel and Restaurant Div., Oneida, N.Y.

For more details circle #281 on mailing card.

Aluminum Panel Door Has Strength and Lightness

Giving the appearance of solid aluminum, the new Kawneer aluminum flush panel door has an impregnated, moisture-

resistant honeycomb core with hardboard reinforcing to give added strength. The door has simple modern lines for attractive appearance with an unobtrusive fluted pattern on the anodized aluminum



panels. The light weight makes the door easy to operate and it will withstand hard wear.

The door is weather-resistant for exterior as well as interior installations and the permanent anodizing of the aluminum gives a finish requiring minimum maintenance. The door is available with window lights and louvered openings, in butt hung or offset pivot models, in a variety of sizes. The Kawneer Company, Niles, Mich.

For more details circle #282 on mailing card.

(Continued on page 80)

HOSPITAL and DORMITORY BEDS with Large, Deep Drawers

HOSPITAL BED
No. S1065



Solid birch construction
Width: 3'-0", Length:
either 6'-5" or 6'-8".
3" rubber wheel ball
bearing casters. Chest is
36" x 20" x 15".

Write for Bul. HB-54

Solid birch construction.
Width 3'-0", Length:
6'-6", 1½" rubber
wheel — ball bearing
casters. Chest is 36" x
20" x 15".

Write for Bul. DB-54

IF YOU HAVE A "HIGH-LOW" BED REQUIREMENT . . .

Check with us on the most
practical and economical solution.

DORMITORY BED
No. 1065 DB



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Contract Furniture
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ESTABLISHED 1873

E-9

LIFTS DIRT...
HOLDS IT OFF...

CINDET

100% ACTIVE 100% SAFE!

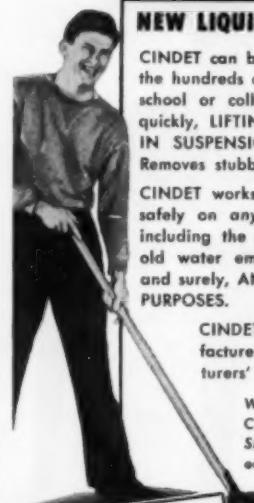
NEW LIQUID SYNTHETIC DETERGENT

CINDET can be used in hard or soft water for the hundreds of cleaning needs throughout your school or college buildings. It LOOSENS dirt quickly, LIFTING IT AWAY AND HOLDING IT IN SUSPENSION in a mass of creamy suds. Removes stubborn stains, rubber marks.

CINDET works fast, dries quickly, can be used safely on anything water itself won't harm—including the user's skin. Use CINDET to strip old water emulsion waxes from floors quickly and surely, AND FOR ALL GENERAL CLEANING PURPOSES.

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SERVICE MAN demonstrate its
easy, economical use.



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OF YOUR SCHOOL
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Have you rediscovered the ADVANTAGES of DISC Recording?

- ready reference—saves time!
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no special tape equipment!
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insures permanence!

Remember, only disc recording enables you to record visually and label your records so that any portion may be located without the delay of playing back the entire recording.
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PRESTO K-10 DISC RECORDER

A favorite with schools and recording studios! Offers all the economies of disc recording...preferred to tape recording wherever high professional quality, low recording cost and ready reference are required. Perfect for language classes, dramatic readings, voice training, broadcast or reference recording.

PRESTO's service plan insures low-cost maintenance—parts always available—your unit always in perfect working condition.

- cuts discs up to 13½" in diameter
- operates at 33⅓ and 78 rpm speeds—
45 rpm optional at slight extra cost
- standard feed pitches of 112 and 224 lpi
- compact, lightweight, portable!



PRESTO ORANGE LABEL RECORDING DISCS

high quality—low cost—fitting companion to
the K-10 Recorder

You know the flawless recording surface of PRESTO discs...the finest in the world! Here is the superb quality lacquer coating of the most expensive PRESTO discs...on a lighter weight aluminum base...at less than 60% the cost!

- overall thickness—.040"
- packed 50 in box—jackets of 5 discs each—
labels attached

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EVERY
MINUTE
COUNT



SEND
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TODAY

Your operators will do a better cleaning job in less time with Spencer Portable Vacuum Cleaners. Spencer's extra vacuum power makes the most of every cleaning minute . . . saves time, money and effort. Unique swivel elbow between hose and handle cuts operator fatigue. Spencer's wet pick-up is the most effective way of removing water from terazzo, linoleum and tile floors. A special attachment cleans dry mops without spreading dust . . . Spencer portables are used widely in institutions, offices, stores, hospitals, schools and theatres.

Write for 32-page illustrated booklet and folder.

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Di Natale Floors

FOR CHAMPIONSHIP PLAY—EVERYDAY USE

The above floor at the U. S. Naval Academy has been in service since 1948. All Di Natale Portable Basketball Courts and Indoor Tracks are made to the highest precision standards. They are built at the factory, assembled and tested, then dismounted and shipped. Used by the nation's outstanding colleges—coliseums—municipal auditoriums.

Write for full details to

DI NATALE FLOORS, INC.

1100 WM. T. MORRISSEY BLVD., BOSTON 22, MASS.

Checker HAT AND COAT RACKS



No. 25 portable
5 ft. against-wall
rack holds 25
coats and hats



No. 50
This 5 ft. portable
rack holds 50 coats
and hats.

CHECKROOM EFFICIENCY ANYWHERE

Keep coats and hats out in the open, aired, dry and in press—each coat on a wooden hanger held spaced apart from every other; each hat in its individualized space on a ventilated shelf. Save floor space—accommodate 5 people per square foot. Rigidly built for lifetime service—welded heavy gauge and square tubular furniture steel. Beautifully finished baked-on enamel. Portable units come on large swivel casters. Checker Wall Racks are also available in any length by the foot—fit in anywhere. Mount on wall any height—standard equipment in modern schools, etc. where they keep clothes in a safe, sanitary, orderly manner.

Write for Bulletin CK-16

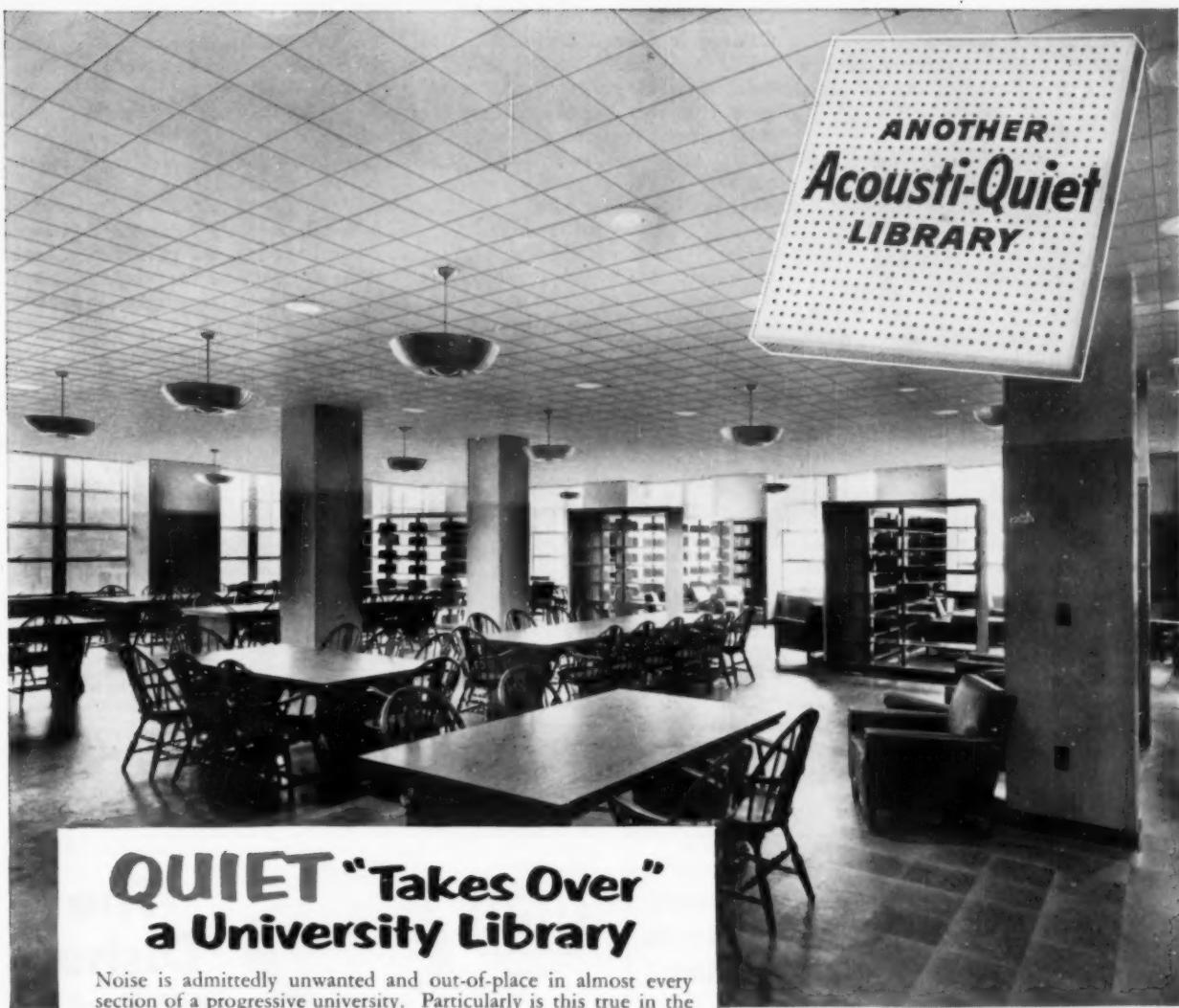
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COLLEGE and UNIVERSITY BUSINESS



QUIET "Takes Over" a University Library

Noise is admittedly unwanted and out-of-place in almost every section of a progressive university. Particularly is this true in the school library. And Northeastern University of Boston solved the problem of uncontrolled sounds . . . when it adopted Acousti-Celotex Sound Conditioning. The effect is one of *quiet comfort* that immeasurably aids concentration and study.

Economical Solution. So many American colleges and universities are finding the low-cost answer to the noise problem in a sound-absorbing ceiling of Acousti-Celotex Tile. Such an installation works in classrooms, corridors, auditoriums, gymnasiums, libraries, lecture halls—to check disturbing sounds, correct acoustics. Both students and faculty benefit from the improved environment brought about by modern sound conditioning.

Easily Maintained. Quick and easy to install, Acousti-Celotex Tile needs no special maintenance, provides excellent sound absorption plus a surface of unusual beauty. And it can be washed *repeatedly* and painted *repeatedly* without impairing its sound absorbing qualities.

Mail Coupon Today for a Sound Conditioning Survey Chart that will bring you a *free analysis* of the noise and acoustical problems in your school, together with a free factual booklet, "Sound Conditioning for Schools and Colleges". No obligation.

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Library of Northeastern University, Boston, Mass.
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MAIL NOW!

The Celotex Corporation, Dept. T-25
120 S. LaSalle St., Chicago 3, Illinois

Without cost or obligation, please send me the Acousti-Celotex Sound Conditioning Survey Chart, and your booklet, "Sound Conditioning for Schools and Colleges".

Name _____ Title _____

Institution _____

Address _____

City _____ Zone _____ State _____

What's New ...

Table Model Tape Recorder Has Multiple Speakers

A system of four speakers on the new Music Festival Tape Recorder developed



by Bell & Howell Company gives realistic sound reproduction. Two eight inch speakers on opposite sides of the table model unit reproduce the low tones and two electrostatic speakers behind the front grille provide the high tones. Each electrostatic speaker is a perforated metal oblong with a thousand small apertures for the company's "Miracle 2000" sound system. Three separate motors are used to enhance sound fidelity, to maintain uniform speed and for faster forward and rewind operations. **Bell & Howell Co., 7100 McCormick Rd., Chicago 45.**

For more details circle #283 on mailing card.

Complete Sanitation Offered in Coved Sinks

The new Seco all-coved sinks, die-stamped of 14 gauge stainless steel or galvanized after fabrication, have every outside corner rounded and every inside corner coved for easy and complete cleaning. All bowls are one-piece, seamless, deep-drawn for ease of sanitation and are available in two standard sizes, 15 by 20 or 20 by 22 inches. The sinks are offered in 24 models with integral drainboards and bowls in a number of arrangements. The fluted drainboards are pitched to the sink and bowls are designed for complete drainage, with no pockets. Pipe legs have stainless steel adjustable feet. Every bowl is equipped with a duo-strainer type drain. Electric or gas heater can be furnished in one compartment for sterilizing. **Seco Company, Inc., 5206 S. 38th St., St. Louis, 16, Mo.**

For more details circle #284 on mailing card.

Easy-Fold Bleachers for Flexible Gymnasium

To give the gymnasium maximum flexibility, Amweld Easi-Fold Bleachers for indoor seating can be installed and folded against the wall when not in use. They are available in single and double-fold units of varied heights and

(Continued on page 82)

lengths, and even bleachers 24 rows high can be unfolded or folded in a matter of minutes. Casters are used for carrying the dead weight of the bleacher during folding and live weight is automatically transferred through the structural framework of the stand to the floor.

The rugged steel I-beam welded bleachers are engineered for maximum use and incorporate in the new basic design a maximum flexibility for streamlined operation at minimum maintenance cost. When folded out of the way, the bleachers take up minimum space and are protected by a cabinet type wall which lies flat on the floor when



bleachers are in use. Cleaning of bleachers and floor space is thus facilitated and the gymnasium floor is protected. **American Welding & Mfg. Co., Warren, Ohio.**

For more details circle #285 on mailing card.

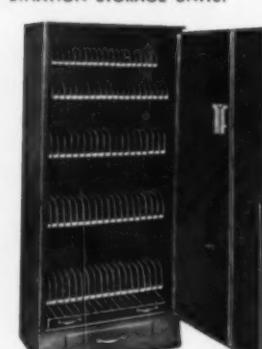
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YOUR
FILM!**



**ALL STEEL
COMBINATION
STORAGE UNITS**

YOU CAN BE SURE that your stored films will be safe from dust, heat or dryness with NEUMADE COMBINATION STORAGE UNITS!



Model MM-119—A practical storage cabinet for the varied film library. Holds 400, 800, 1200, 1600 ft. reels; 100 filmstrip cans plus utility drawer in base. Overall size: 30" wide, 70" high, 16" deep. Over 50 models to choose from. Write for free catalog.

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PRODUCTS CORPORATION
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EDWARD DON & COMPANY

**The Dishes
that Last..
and Last..
and Last**

... and WILL stimulate the appetite!

FURNISH your school lunchroom or church kitchen with colorful, unbreakable plastic dishes that build up appetites—cut down expenses. Their eye-appeal means appetite-appeal. Their longer life means much lower costs. Less clatter — meaning less noise and frayed nerves when clearing tables, washing and stacking. Light weight, too, for quicker and easier handling. And your choice of pastel colors!

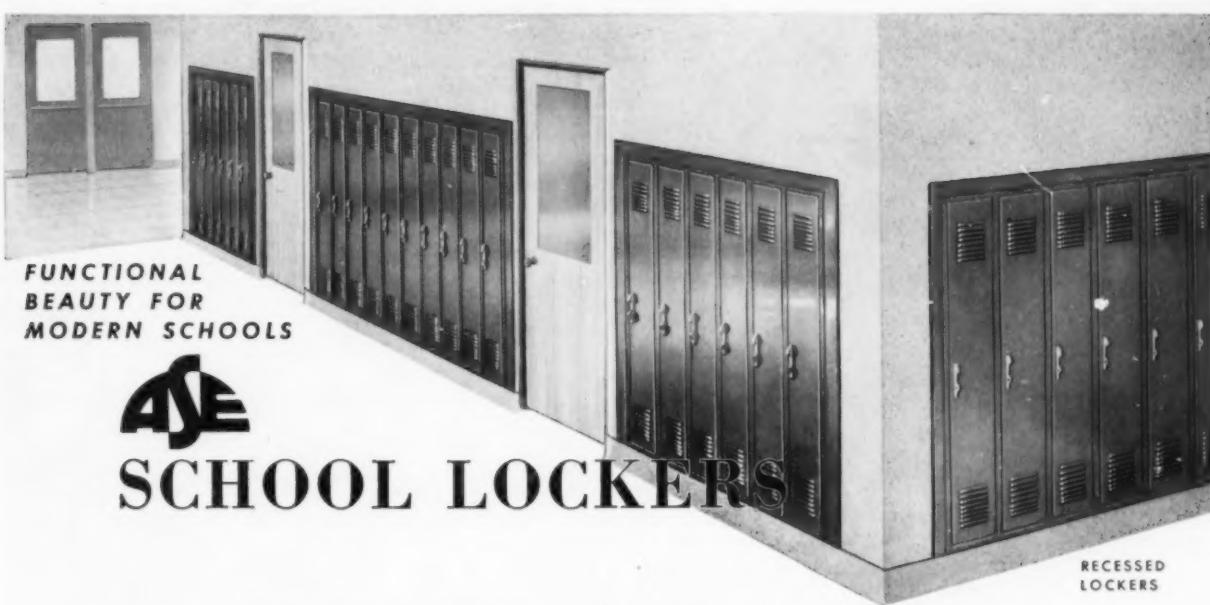
PLASTIC WARE is only one of the 50,000 items of EQUIPMENT, FURNISHINGS, AND SUPPLIES sold by DON for faster and better food service. Ask for a DON salesman to call. He carries a complete line of items for your lunchroom or kitchen — yes, everything from ranges to napkins. And on ALL items always — SATISFACTION GUARANTEED.

Write Dept. 6, or visit our nearest Display Room

EDWARD DON & COMPANY
1400 N. Miami Ave.
Miami 32

2201 S. LaSalle St.
CHICAGO 16

27 N. Second St.
Minneapolis 1



SERVICEABLE UNITS FOR HALLS, CLASSROOMS AND LOCKER ROOMS



**SINGLE TIER
LOCKERS**



**DOUBLE TIER
LOCKERS**



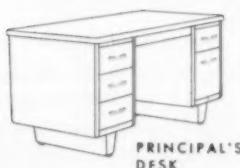
**BOX
LOCKERS**

ASE Lockers present a fine, modern appearance and afford the most efficient, functional service. Have smartly designed handles that lift easily with a single finger and have pre-locking advantage. The locker doors close silently . . . Resilient rubber bumpers are located at points of contact. Styled louvres provide adequate ventilation. Hinges are concealed with no projecting surfaces to catch clothing.

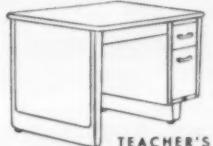
ASE Lockers are carefully cleaned and treated for the finest baked enamel finishes in Dawn Gray, Green and Sand Tan.

ASE engineers will gladly work with you or your architect. Write for illustrated Locker Bulletin.

other ASE quality steel furniture for school use



**PRINCIPAL'S
DESK**



TEACHER'S DESK



UTILITY CHAIR



**LIBRARY AND
UTILITY TABLES**



**PRINCIPAL'S
CHAIR**



**COMBINATION
CABINET**



ALL-STEEL EQUIPMENT INC., Aurora, Illinois

Write for complete information. There's an ASE dealer near you.

What's New ...

Removable Vacuum Unit on Heavy Duty Model

The new Series 80 heavy duty Tornado Vacuum Cleaner is a versatile unit. The



motor or power unit can be removed by a quarter turn from the top of the tank cover and converted into a portable electric blower, a pack carried vacuum cleaner, an insecticide sprayer or an air sweeper for removal of paper and debris. A large sized tank cover plate is available to fit any empty 55 gallon drum so that, with a large sized filter bag, the capacity of the cleaner can be increased to 55 gallons.

The air speeds for cleaning and blowing have been greatly increased through use of a new type air impeller. The new

type motor does not overheat or burn out, even when operated under constant maximum load. The stainless steel tank of the machine itself has a 15 gallon capacity for wet or dry pickup. Maximum filter efficiency with long life are features of the new dust filter bags. Four large ball bearing caster wheels and 20 feet of heavy duty cable make the unit highly mobile. The Series 80 is available in $\frac{1}{2}$, 1 and $1\frac{1}{2}$ h.p. sizes. Breuer Electric Mfg. Co., 5100 Ravenswood Ave., Chicago 40.

For more details circle #286 on mailing card.

Hand Dryer Has Dual Nozzle

An electric hand dryer is available with two nozzles to permit two students to dry their hands simultaneously, thus saving time at busy periods. The streamlined unit dries hands and face, both nozzles operating at the touch of the button. The new Model DA-20 has a white and chrome cabinet and requires a space 13 by $11\frac{1}{2}$ inches in size for wall mounting. The precision-control timing device shuts the dryer off automatically at the end of a 40 second cycle. The unit is designed for rugged, heavy duty use and is tamperproof and foolproof. American Dryer Corporation, 1324 Locust St., Philadelphia 7, Pa.

For more details circle #287 on mailing card.

(Continued on page 84)

INCREASE ROOM FUNCTIONS



Abbott Hall, Northwestern University
James Gamble Rogers, Arch.

with **Fairhurst Unitfold®**
T.M. Reg.
FOLDING WALLS

This installation at Northwestern University illustrates the practical flexibility of space arrangement possible with a Unitfold Wall. Lounge and dining hall may be quickly separated by a rigid, sound-resistant wall that permits simultaneous use of each. For student dances or meetings the wall units fold out of the way to allow clear access between rooms. Used almost daily since 1938; no maintenance required. There is no need for expensive mechanical equipment with Unitfold—all installations are easily operated by one man regardless of size or number of units. Write us.

Photo above shows: center—units partially closed; right—units folded and stacked.

John T. Fairhurst Co., Inc.

45 West 45th Street

New York 36, N.Y.

Heavy-Duty Thrower for Fast Snow Removal

Fast handling of snow removal around schools, colleges, hospitals and other institutions is possible with the new Champion heavy-duty snow thrower. The new rotary-type machine has nearly twice the horsepower of the Jari Junior snow thrower for handling large snow removal jobs. The Champion propels itself at 60 yards a minute, clearing a 20 inch wide swath through heavy, hard-packed or slushy snow. It is designed to clear away all types of snow quickly and completely without stalling or clogging. Operation is simple and easy as it is self-propelled and needs only to be guided. The Cham-



pion has attachments making it versatile for year-round grounds maintenance. Jari Products, Inc., 2938 Pillsbury Ave., S., Minneapolis 8, Minn.

For more details circle #288 on mailing card.

MAYLINE
Consistent
in QUALITY
Moderate
in PRICE



C 7702 ART TABLE



C 7703B DRAFTING TABLE

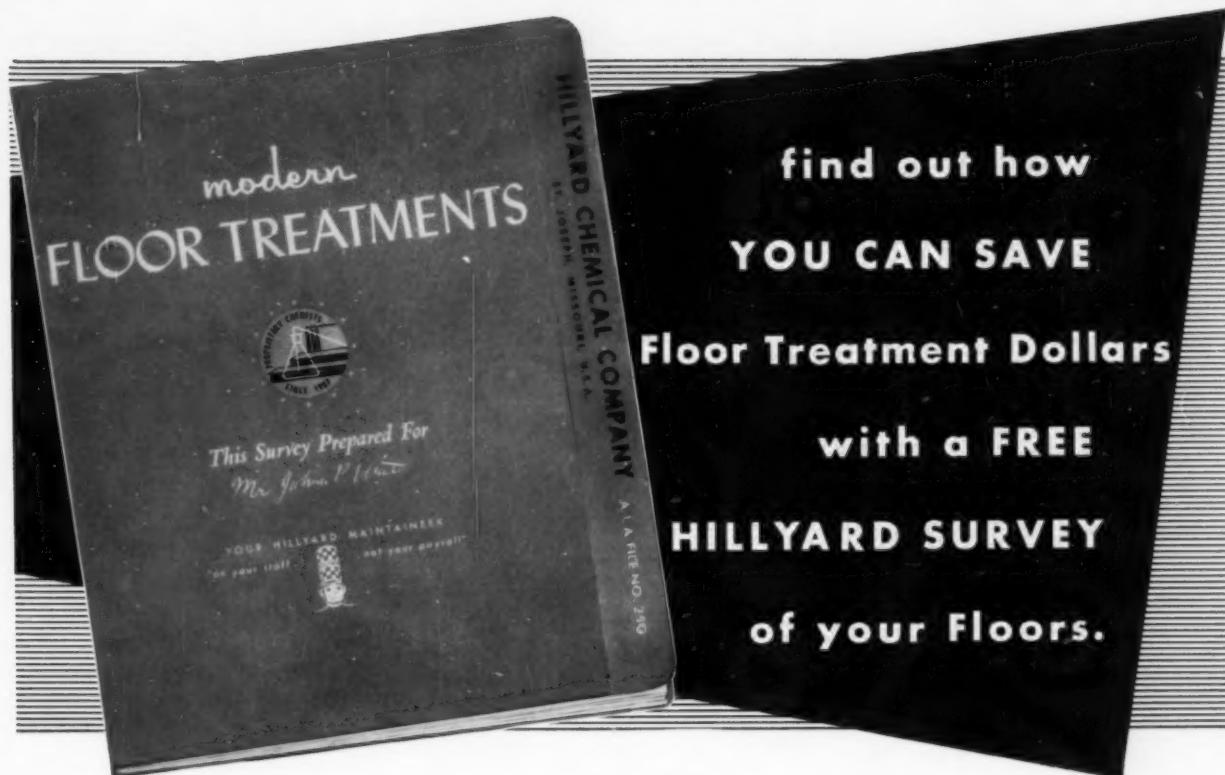


STANDARD DRAFTING TABLE

Symbol of  Superiority

MAYLINE COMPANY
525 No. Commerce St.
Sheboygan, Wis.

MAYLINE



A HILLYARD SCHOOL FLOOR TREATMENT PLAN CAN SAVE MATERIAL AND LABOR COST

From Survey to Service you'll find Hillyard specialized floor treatments provide complete protection, beauty and economy — safe for your floors — safe for those who walk on them — built to last longer because they're made to answer particular school floor treatment problems. They're famous for quality. The Hillyard "Maintaineer" near you is trained to efficiently and quickly make a FREE survey of your floors and present a plan especially prepared for you. He will show you how your floors can be more beautiful — yet prove important savings in labor and materials through Hillyard plan for all floors.

*All Specifications prepared in accordance with
American Institute of Architects requirements.*

Write or Call Collect for the Name of your nearest HILLYARD MAINTAINEER®



SEND COUPON TODAY FOR FREE SURVEY

HILLYARD CHEMICAL CO.
St. Joseph, Missouri

Please have your Maintaineer call and make a free survey of my floors.

Name _____ Title _____

Institution _____

Address _____

City _____ State _____

Visit Hillyard booths F-26, 28 and 30, American Association of School Administrators, Hotel Jefferson, St. Louis, Mo., Feb. 26—March 2.

What's New . . .

Product Literature

- Maintenance procedures for air conditioning and refrigeration units, compressors and condensers, heaters and coolers, windows and light fixtures, and removing rust are covered in the new "Plant Maintenance Cleaning Guide" recently published by Oakite Products, Inc., 118A Rector St., New York 6. The 12 page booklet is designed for quick reference with much of the material presented in chart form.

For more details circle #289 on mailing card.

- Decorating schemes are at your fingertips with the newly revised edition of Satin Luminall's "Match-A-Chip Color Chart." Brought out by Luminall Paints Division, National Chemical & Manufacturing Co., 3617 South May St., Chicago 9, the brochure features 72 chips, all painted with the latex-alkyd finish to help in selecting desired decorative effects. The chart offers an imaginative and flexible use of color and simplifies the problem of selection and planning.

For more details circle #290 on mailing card.

- "The Electronic Control Story" is told in a new 24 page booklet, F 6437, issued by Barber-Colman Company, Rockford, Ill. The booklet was written to aid in understanding the fundamentals of electronic temperature controls and their application and is complete with simplified, easy-to-understand diagrams and non-technical descriptive text. It is written in editorial style with line drawings illustrating the points covered.

For more details circle #291 on mailing card.

- Bulletin G-205R, a new guide for selecting the right ladder or scaffold for all maintenance operations, has just been published by The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N.Y.

For more details circle #292 on mailing card.

- Reproductions of world-renowned sculpture masterpieces in prices ranging from \$2 to \$75, are now being made available for study and enjoyment. The reproductions are hand-cast in a stone-like composition, in molds, directly from the originals in museums, with the approval of museum curators. Each reproduction is hand-finished to duplicate as closely as possible the original material. All periods of culture are represented in the collection, from ancient to modern times. The available pieces are illustrated and described in a new catalog, at 25 cents each, issued by Museum Pieces, Inc., 114 E. 32nd St., New York 16.

For more details circle #293 on mailing card.

- Several ideas for sandwich fillings are offered on a new recipe card by Continental Coffee Co., 375 W. Ontario St., Chicago 90. The new recipes have been developed by Constance Conover, Quantity Recipes Director for that company.

For more details circle #294 on mailing card.

- Data on how to select the microscopes and accessories required by laboratory technicians, researchers and science educators is presented in a new Booklet D-185, "Bausch and Lomb Dynoptic Laboratory Microscopes," published by Bausch & Lomb, 635 St. Paul St., Rochester, N.Y. The 28 page illustrated guide discusses all microscope needs.

For more details circle #295 on mailing card.

- The history of Tile-Tex Asphalt Floor Tile, and the many products and services offered by The Tile-Tex Division of The Flintkote Company, 1232 McKinley Ave., Chicago Heights, Ill., are covered in a 34 page booklet, "Tile-Tex Floor and Wall Tile Digest." The book is profusely illustrated in color and black and white, and covers a number of interesting subjects relating to the products, research, installation and maintenance.

For more details circle #296 on mailing card.

- "When Power Fails" is the title of a new booklet issued by the Caterpillar Tractor Co., Peoria, Ill. It tells the story of how Caterpillar emergency power units can prevent loss of lives, time and production by taking over instantly when the regular source of power fails. Pictures and data on various models of Caterpillar stand-by units operating in hospitals, schools and other institutions fill the two-color booklet.

For more details circle #297 on mailing card.

- The story of Electrosig Power for the College and High School Laboratory is told in a 24 page booklet published by Electrosig Corporation, Hamilton Ave., Stamford, Conn. Descriptive information and illustrations tell the story of the equipment manufactured by the company and line drawings show room layouts, electric bench power, and typical battery and motor generator powered laboratory panels.

For more details circle #298 on mailing card.

- A special file, Form No. JN-500, for the professional reference of kitchen planners and architects, has been prepared by Hotpoint Company, 227 S. Seeley Ave., Chicago 12. All products in the Hotpoint line of counter and heavy duty electric cooking equipment are described and illustrated. Also available is a file of scale templates, Form No. Y-7000, on the heavy duty equipment, for use in planning kitchen layouts for institutional food-service operations.

For more details circle #299 on mailing card.

- Standard items in the line of Chef-Styled Commercial Aluminum Cookware available from the Harlow C. Stahl Company, 1375 E. Jefferson Ave., Detroit 7, Mich., are described in a new pocket-sized brochure recently released. Recent additions to the company's cookware line and new sizes on standard items are included.

For more details circle #300 on mailing card.

- "Ideas on Electrical Convenience for School, College and University" is the title of a new booklet brought out by The Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn. The new publication describes and illustrates wiring devices that have been selected to meet the needs of educational institutions and gives practical suggestions for schools and colleges on reducing maintenance and power costs.

For more details circle #301 on mailing card.

- Institutional Projection Screens are illustrated and described in a new Pocket Catalog issued by Radiant Manufacturing Corp., 2627 W. Roosevelt Rd., Chicago 8. Included are helpful hints on how to choose projection screens, best projection surface and correct screen size.

For more details circle #302 on mailing card.

- The complete line of Sico tables and the Sico System of table seating is described in a two-color, six page brochure issued by Seating, Inc., 6045 Pillsbury Ave. S. Minneapolis 19, Minn. The problems of table seating in work and cafeteria areas and how they can be solved is discussed in the catalog which also describes Sico accessories.

For more details circle #303 on mailing card.

- The 1954-55 catalog on stopwatches was just released by Clebar Watch Agency, 521 Fifth Ave., New York 17. The publication illustrates and fully describes a stopwatch for every precision timing purpose, and shows more than a score of stopwatches, timers and chronographs.

For more details circle #304 on mailing card.

Suppliers' News

- General Mills, Inc., 400 Second Ave. S., Minneapolis 1, Minn., millers and manufacturers of food and flour products, announces the formation of an Institutional Products Division to serve quantity food service institutions. Thirty products, from which more than 2000 varieties of foods can be prepared, will be sold in bulk quantities to the institutional market. The line will bear the red diamond identification, the General Mills brand name, and will consist of nine different cake mixes; two enriched yeast-raised mixes for rolls and pastries; five enriched hot bread, muffin and donut mixes; three griddle mixes; homogenized pie crust mix; four ready-to-eat cereals; monosodium glutamate, and cellulose sponges.

- Progressive Metal Equipment, Inc., Rhawn St. at Whitaker Ave., Philadelphia 11, Pa., manufacturer of food service equipment, announces the opening of its new plant and offices. The new plant is designed specifically for the fabrication of food service and equipment. Increased facilities are provided for the production of standard as well as custom built equipment.

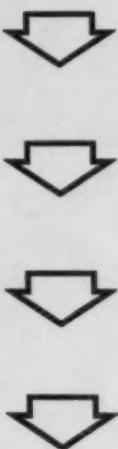
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Ditto, Inc. Duplicator.....	
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FOLD THIS FLAP OUT
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The two cards below are detachable and are addressed to us. With this flap folded out you can turn through the magazine for the items on which you want further information.

When, in either an advertisement or "What's New" you locate the product, turn to the index to advertisements on the preceding page or to the index of "What's New" items (right) where you will find the key number for the item. Items advertised are listed alphabetically by manufacturer. "What's New" items are in Key Number order. Circle the corresponding key number on the card below for each item in which you are interested. The second card is for the use of someone else who may also want product data.

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PERMIT NO. 136
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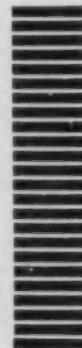
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February, 1955

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NAME _____

TITLE _____

INSTITUTION _____

ADDRESS _____

CITY _____

ZONE _____

STATE _____

February, 1955

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NAME _____

TITLE _____

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CITY _____

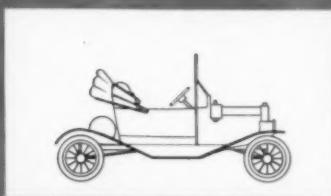
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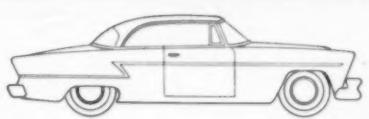
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*As far ahead of the Model T era
as today's sleek new autos...*



BRUNSWICK

brings out the best in any classroom!

Brunswick advanced-design furniture encourages the creative use of classrooms by teacher and student. Pieces shift in a matter of moments—change place or function. A child can easily move them.

Each unit is almost incredibly adaptable! Interchangeable panels and shelves give cabinets new dimensions with a twist of a screwdriver. Chairs and desks change arms, add storage space just as easily! PIECES ARE NEVER OUT-DATED because flexible-function

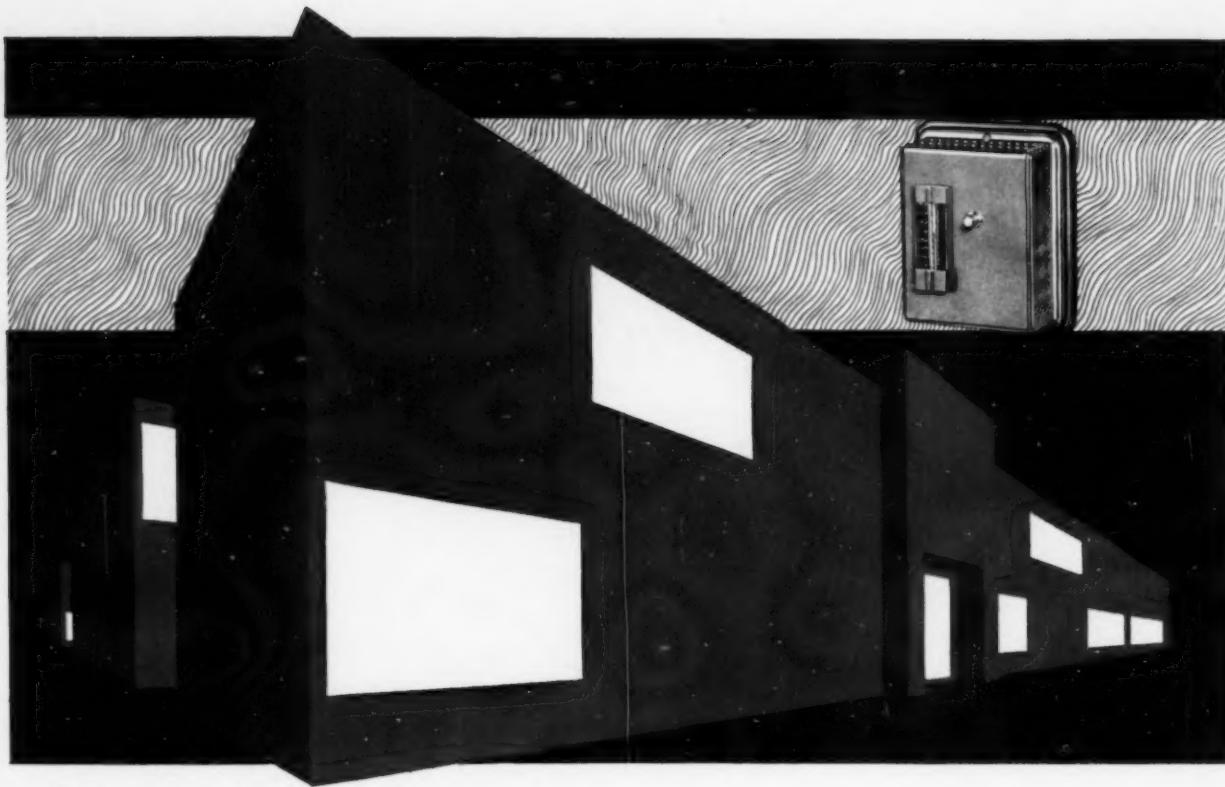
designing lets them change as conditions change, as teaching methods change!

Knockdown construction permits minimum space for storage, minimum costs for shipping. Interchangeable parts mean less to buy, less to ship, less to store!

See the exciting advances in design that Brunswick brings to the schoolroom . . . send for the complete catalogue to learn full details about the whole of this revolutionary line!

THE BRUNSWICK-BALKE-COLLENDER COMPANY
623 South Wabash Avenue • Chicago 5, Illinois

Brunswick



HEAT ONLY THE OCCUPIED ROOMS...CUT YOUR FUEL COSTS!

HOW JOHNSON DUAL TEMPERATURE CONTROL SOLVES THE "AFTER-HOURS" HEATING PROBLEM

On most campuses, some buildings continue to be partly occupied after regular hours—classroom, administration and laboratory buildings, for example. And, all too often, colleges incur needlessly high fuel costs by heating entire buildings just to keep a few rooms comfortably warm.

The simple, effective answer to this "after-hours" heating problem is a modern *Dual* System of Johnson Automatic Temperature Control. Briefly, here's how it works:

During regular hours, a Johnson *Dual* Thermostat in each classroom or office automatically maintains every space at the ideal comfort level. At the end of the day, all *Dual* Thermostats in the building may be reset, from a central control panel, to operate at *reduced, non-occupancy temperatures*.

In those rooms which continue in use, merely pressing the button on the *Dual* Thermostat restores them to normal occupancy temperatures, *without changing the economy settings of the other thermostats in the building*.

Johnson *Dual* Control offers the finest in modern individual room temperature regulation—and

at a tremendous reduction in fuel costs. Heating only the occupied rooms quickly saves enough fuel dollars to pay for the cost of the entire system!

These and many other important comfort and money-saving advantages of Johnson *Dual* Control are readily available to any new or existing building. Conversion of existing single temperature systems to Johnson *Dual* is both simple and inexpensive. An engineer from a nearby Johnson branch will gladly survey your buildings and give you all the facts without obligation.

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TEMPERATURE AIR CONDITIONING

PLANNING • MANUFACTURING • INSTALLING • SINCE 1885

JOHNSON SERVICE COMPANY
507 E. Michigan St., Milwaukee 2, Wisconsin

I'd like more information about Johnson *Dual* Temperature Control.

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CITY & STATE _____